The Hunterian Lecture

ON

THE SYMPTOMS AND DIAGNOSIS OF STONE IN THE KIDNEY.

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[AFTER thanking the President and council for the honour conferred upon him by selecting him to deliver the lecture Mr. Clement Lucas proceeded as follows:—]

Looking through the records of past lectures, I find that the lecturer has generally chosen a subject in which he could claim some exceptional experience and he has then proceeded to give the results of his personal observations rather than a collection of the views of others. This is very characteristic of John Hunter's own method, and endeavouring to act in this spirit I have chosen for my subject "The Symptoms and Diagnosis of Stone in the Kidney."

I will first relate the history of a typical case and then proceed to analyse the symptoms in detail, showing how greatly they vary in different instances and how important it is to weigh their relative value before arriving at a conclusion.

A young man, 24 years of age, consulted me three years ago on account of attacks of pain and hæmaturia. His parents were living and healthy and he had five brothers and sisters, also healthy and well. He was brought up on a chalk subsoil. Five years previously he injured his side at football but his symptoms did not commence till a year later. He then first suffered from a severe attack of pain in his left loin running through to the front and into his groin and testis. This lasted for three or four hours and then he got quite well. He did not notice any stone or gravel in his urine but it often had brick-red deposits. The second attack occurred about a year later and passed off in a similar way. Since then he had had frequently recurring attacks, always on the same side. He first noticed blood in his urine one and a half years previously after a game of tennis. This had occurred at frequent intervals since, especially after exercise. Once or twice the hæmorrhage had followed the attacks of colic. In the intervals he felt well but was afraid to exert himself in any way. The attacks of colic always caused nausea and had once or twice induced vomiting His urine when examined by the microscope showed numerous crystals of uric acid and litholes but no blood or pus. Acting on these symptoms I cut down on his kidney and removed a uric acid calculus weighing 48 grains.

I will now proceed to speak of the symptoms in detail.

I. PAIN.

Pain perhaps more often than any other symptom first draws attention to the existence of stone in the kidney. Yet important as this symptom is, its inconstancy, radiation, reflection, and tendency to cause sympathetic aching of the other organ, diminish its trustworthiness, so that pain when considered alone is apt to lead rather to uncertain and incorrect conjecture than to exact diagnosis. It will be necessary to analyse very carefully this symptom before drawing any conclusion from it.

1. In the first place, it should be noted that in a certain number of cases *pain may be altogether absent.* Post-mortem records abound in cases in which patients dying from diseases of other organs were found to have calculi, often of large size, imbedded in the kidneys which gave rise to no symptoms during life. I will only allude to one brought before the Hunterian Society years ago, that of a man who died from a sarcoma of the heart who had an enormous calculus in each kidney that had given no evidence of their presence during the man's lifetime.

To what can the extreme variability of the symptom of pain be attributed? Why is it that in one case a renal calculus may excite so little discomfort that the patient is unconscious of its presence, whereas in another agony of the most distressing and excruciating character is caused by a stone in the kidney? I think that I shall be able to show that this variability of the symptom of pain depends upon two factors (1) the position of the stone and (2) its mobility or fixation.

Taking the position of the stone first it can be shown that the secreting structure of the kidney possesses little sensibility and a stone firmly fixed in the fleshy part of the organ may excite little or no sense of pain. I once had an opportunity of directly testing the sensibility of the secreting part of the kidney in a man whose kidney had been exposed by a wound in the loin. He appeared to be quite indifferent to punctures of the fleshy part of the organ. I have also frequently tested it during operations when the patient has been but partly under an anæsthetic. Provided that the organ be not moved so as to drag on its nerves puncture of the cortical and medullary portions causes no evidence of pain. Another way in which the sensibility of the solid parts of the kidney may be tested is when a very moveable kidney is met with in a very lax abdomen. In these circumstances it is often easy to grasp the kidney in the hand and to compress it, when a sensation somewhat similar to that caused by squeezing a testis or an ovary is produced, but much less severe in character. It must be remembered that the kidney lies behind the intestines and that in compressing it in this way the intestines are squeezed at the same time and pressure upon them may account for part of the pain induced. The pelvis of the kidney and its branches are, however, acutely sensitive, and, as in the case of the urinary bladder, the most sensitive part is that immediately around the outlet. A moveable stone impinging upon this point excites the most excruciating agony. Very large branched stones may be met with occupying the pelvis and calices of the kidney which being firmly fixed have caused only aching pains, quite distinct from the agony of renal colic, and it may be stated as a general axiom that the mobility of the stone is the chief factor in bringing about attacks of renal colic.

2. The next point to be considered is that *pain to be of service in the diagnosis of renal calculus must be unilateral.* It usually is so; but cases are met with in which with a stone imbedded in one kidney, the patient complains only of general backache or pain in the loin and is quite unable to distinguish one loin as being more painful than the other. Such a case came under my notice three years ago. The patient was 32 years of age and a very heavy drinker. Six or seven years before he had suffered for some time from albuminuria following an attack of diphtheria. 18 months before I saw him he suffered from backache and passed blood in his urine and was treated for congestion of the kidneys. He suffered also from headache. Occasionally since he had noticed a little blood in his urine. When I saw him in January, 1900, his urine was turbid when passed and contained an excess of phosphates, some mucus, and a considerable quantity of albumin. When questioned as to pain he put his hand on his spine in the hollow of his back and he was quite unable to distinguish the pain as greater on one side than the other. This was just the case in which had the pain been unilateral the symptom would have been of value since he had shown signs indicating degenerative changes in his kidneys and his habits were such as to predispose to these pathological changes. Yet it was not till three months later, though his attention was constantly drawn to the point, that he would admit the pain to be greater on the left side than on the right and I then removed an enormous stone with five large processes from the pelvis of his left kidney, a stone which I think must have been years growing to the size it had attained when I removed it.

3. *The character of the pain varies greatly in different cases.* An aching, gnawing pain extending from the loin through to the front on a lower level is what is most commonly complained of. It begins at the lower edge of the last rib behind, in the angle between this and the spine, and is felt in front below the level of the umbilicus along the edge of the rectus muscle. The explanation generally given of this pain is that it commences in the renal plexus and extends downwards along the ureter. Whilst not denying this source of pain I think that the particular symptom is more correctly explained by reflection along the last dorsal nerve, which may be regarded as a protecting nerve to the kidney. The almost certain relief of pain which follows on

exploration with division of this nerve, where a stone exists but has been undiscovered at the operation, supports the explanation which I have suggested. Transference along the ilio-hypogastric or ilio-inguinal nerve would bring the anterior pain lower.

4. *Attacks of renal colic*, which are to be observed in their most acute form during the passage of a small calculus through the ureter, frequently occur at intervals as the result of a stone lodged in the kidney. As I have before explained, such attacks are most likely to occur as the result of a moveable stone dropping like a ball-valve over the outlet of the pelvis. Not only is the most sensitive part of the organ then struck but the ball-valve action obstructs the passage of urine and causes backward distension and pressure upon the secreting structure of the kidney. The sudden blocking up of half the urinary secretion tends to a uræmic condition which favours vomiting, a symptom which is also encouraged by the connexion of the pneumogastric nerve with the renal plexus.

It must not be concluded that attacks of renal colic only occur from a loose stone in the pelvis of the kidney. They occur in a modified form when a stone lies loose in a dilated cavity. Calculi by blocking the outflow of urine may cause hydronephrotic cavities behind them in any part of the kidney; for it is one of the most curious and interesting facts in physiology that the secreting force of the kidney is sufficiently strong to destroy the secreting structure by the backward pressure of the fluid it has secreted. A stone becoming loose in one of these cavities and being driven into the narrow sensitive neck of the calyx through which it cannot pass gives rise to attacks of renal colic though not so severe as those in which a stone drops on the outlet of the pelvis. Attacks of colic dependent on stone may also be caused by hæmorrhage when it occurs with such rapidity as to coagulate within the kidney. The passage of such clots may excite severe pain.

Nephritic colic in its most characteristic form gives rise to the most intense distress, commencing in the loin and extending downwards to the groin and testis. The patient doubles himself up and groans with agony or rolls about tossing the bed-clothes and twisting over and over in his endeavour to gain a position of rest. Nausea, retching, and vomiting occur, followed by fainting and collapse. Beads of perspiration stand out on his forehead and the surface of his body is cold and moist. Retraction of the testis towards the inguinal canal may be noticed, consequent on spasm excited in the cremaster muscle, but it is by no means a constant symptom and occurs much more frequently in boys than in adults. Frequent micturition and pain reflected to the end of the penis not infrequently accompany the attack, but these symptoms are much more marked when the stone is in the ureter than when it is in the pelvis of the kidney.

5. *Transference, radiation, or reflection.*—Under these terms are described pains removed altogether from the site of the original exciting cause, though frequently associated with pain in that situation. The intimate connexions of the renal plexus with surrounding nerves permit of pain being reflected to the ends of various spinal nerves. The upper lumbar nerves are those along which these impressions more frequently travel, but instances are on record of a renal calculus exciting pains in the thigh, knee, hip, ankle, and foot, along branches of the anterior crural and great sciatic nerves of the same side. Thus in vol. xxii. of the Transactions of the Clinical Society, Dr. Steavenson and Mr. Butler-Smythe relate a case of renal calculus which owing to pains in the sole of the foot, hip, knee, and ankle, had been treated for sciatica until a renal tumour was discovered. The most familiar and striking instance of transference of pain is when pain is so concentrated in the testis as completely to divert attention from the kidney. Six years ago a youth was referred to me whose left testis had been kept carefully strapped for some weeks owing to pain and, it was thought, some enlargement of the epididymis. Having removed the strapping I found little abnormal about the organ, but I was attracted by the patient saying that at times the pain was so severe that he had to squeeze the testis in his hand to relieve the agony. He also admitted that the pain went up to his back and was brought on by heavy work. He had never suffered from gonorrhœa or had any injury to the testis. Following out my inquiries I came to the conclusion that he was suffering from a calculus in his left kidney, which I afterwards verified by operation, and by removing the stone I completely relieved him of his symptoms. In relating this case I wish at once to admit that I was assisted in the diagnosis by my recollection of a case related in vol. xv. of the Transactions of the Clinical Society in which the pain being concentrated in one testis Mr. A. Willett made a diagnosis of stone in the kidney that was afterwards proved to be correct by Mr. H. T. Butlin.

6. *Increased pain at night* is sometimes complained of but is by no means a constant accompaniment of renal calculus. In my experience it is only met with in association with very large or multiple stones. The explanations that have been offered of this occurrence are not to my mind satisfactory. One is that it is due to the passage of flatus in the colon over the pelvis of the kidney containing a stone, and another is that it is due to the concentration of urine and deposit of crystals at this time. A more reasonable hypothesis would be that, as the heart beats with less force at this time and so gives less impetus to the blood in distant channels, there is a tendency to congestion of the central organs and the congested tissues would be brought with their nerves into more forcible contact with the unyielding stone. If, however, as I have stated, this symptom is only met with in the cases of very large or multiple stones a simpler mechanical explanation is probably the correct one. In the recumbent position the heavy weight of the calculous kidney would press injuriously on the upper nerves of the lumbar plexus and in turning over to the opposite side its weight would tend to displace it, to drag on the nerves about its pedicle, and to press on the colon. I have frequently observed that patients with stone in one kidney are unable to sleep on, or even to turn on to, the opposite side without pain.

7. *Tenderness over the kidney* is a sign of value, especially when the stone is large or angular. It is best determined by placing the patient in the recumbent position, telling him to draw up his legs and to take deep inspirations. Bimanual manipulation is then employed, the fingers of one hand being deeply pressed into the loin in the angle between the last rib and the erector spinæ, whilst the other hand is pressed in beneath the ribs in front. During a deep inspiration the kidney can be caught between the hands and a sudden lancinating pain is sometimes caused if a stone be present, sufficiently acute to cause the patient to cry out. Should blood appear in the urine after such manipulation this would confirm the diagnosis. Sudden percussion of the loin, as suggested by Mr. Jordan Lloyd, I have not found to be of value. It is apt to frighten the patient and to deceive the surgeon.

8. *The pain is increased by jolting exercise.*—This is a valuable sign. A ride on an omnibus, in a light cart, or on certain of our railway lines may help materially to clear up a diagnosis. This sign assisted me greatly in arriving at a correct diagnosis in a somewhat remarkable case that I saw in the summer of 1893. A solicitor had been suffering for some years from a pain in one loin and pyuria. He had had the benefit of the advice of two or three of the most distinguished physicians and surgeons in London who had arrived at the conclusion that he was suffering from a tuberculous kidney. As the result of their advice he had sold his practice and was about to proceed to the high altitudes of California to combat the supposed tuberculous infection. Dr. G. Wilks advised him to consult me before taking this step. He accordingly journeyed to London one morning by a railway at that time not specially distinguished for smooth travelling and when he arrived at my house he was suffering severe pain as a consequence of the journey. His urine passed at my house besides containing a large quantity of pus was tinged with blood which was an unusual occurrence that I also attributed to the journey. The urine was sent to the late Dr. J. W. Washbourn for bacteriological examination and he failed to discover any sign of bacillus, either by staining and microscopic examination or by the injection of a guinea-pig. The patient's family history was free from any taint of consumption and pointed rather to longevity and gout. Upon this evidence I advised that he should have his kidney explored for stone. I had arranged to do this when I was seized with typhoid fever, so that the operation was performed by Sir Victor Horsley who removed a large stone and completely relieved the patient of his symptoms.

9. *The pain is said to vary with the composition of the calculus.*—According to Prout and Dickinson oxalate of lime causes the most acute pain with sharp radiating pains in various directions; uric acid calculus causes the least pain; whilst phosphatic stones give rise to a constant severe pain.

I do not think any great reliance can be placed upon these statements, as the amount and variety of pain depend much more upon the position and mobility of the stone than on its composition. Phosphatic stones, however, being associated with a chronic pyelitis do, in my experience, give rise to a more constant ache than the other varieties.

10. *The stamping test.*—I have of late invented a new test which sometimes gives the most remarkable results. The patient supports himself by resting one hand on some firm object, then is told to flex the thigh on the suspected side as high as possible. The psoas muscle being thus strongly flexed, by its contracted belly presses the kidney forwards and outwards. Next the patient brings the limb suddenly down, stamping the heel firmly on the ground. The kidney in this way suddenly loses its muscular support and is caught, as it were, unawares, whilst the jar carried through the pelvis and spine is communicated to it. A sudden acute pain is commonly caused by this manœuvre when a calculus is present. In one case in which I employed this test it answered only too well, for the patient was immediately seized with acute renal colic which necessitated his being put to bed, where he lay for some hours in great agony. It was evident that a stone had been displaced from a calyx and had fallen over the outlet of the pelvis whence it was removed by operation some days later.

II. HÆMATURIA.

This symptom is associated with so many affections of the kidneys that taken by itself it is of little value in the diagnosis of calculus. As a rule it follows the usual course of renal hæmorrhage, being equally mixed with the urine when passed and not interspersed with clots. It may in certain cases be so slight as to give just a faint smoky tint or a "thin red line" at the high-water mark of the urine left in a chamber, whilst in others it may stain the urine a deep purple-red colour or give it the dark opaque, muddy appearance of porter. In rare cases it coagulates in the pelvis and ureter, giving rise to very characteristic clots. These pelvic clots are somewhat triangular in outline and represent moulds of the pelvis and they sometimes carry, what is very characteristic, a long and very narrow tail moulded in the ureter. More often these narrow mouse-tail clots are separately detached and they may be six or eight inches in length, generally terminating in a bleached fibrinous end where the corpuscles have been washed out by the urine. They are so narrow that they cannot be mistaken for clots moulded in the urethra. In every case where clots are noticed they should be floated out in a basin of water and the water renewed time after time after pouring off the supernatant liquid till the clots lie in clear water. In one case in which clotting in the pelvis was frequent I noticed a cavity in the majority of the clots passed, which was so constant in size and shape that I correctly diagnosed that the clot took the mould of a stone. It must not be forgotten, however, that a hollow in a clot may be caused by the projection of the papillary end of a pyramid or be moulded on a vascular papilloma of the pelvis.

1. *Hæmaturia occasionally occurs in persons a little out of health without being the expression of any serious pathological condition.*—"Some persons bleed from the nose, others from the kidney," was a favourite dictum of the late Sir William Gull. A little increase of hæmic pressure and feebly resisting capillaries might account for such transient disturbance in the condition of the urine, unaccompanied by other symptoms. Among the more serious conditions giving rise to renal hæmaturia may be mentioned oxaluria, excess of uric acid, acute Bright's disease, granular contracted kidney, tuberculous pyelitis, papillomata of the pelvis, and new growths attacking the secreting structure.

2. *The symptom of hæmaturia may be entirely absent* throughout the course of the case. I could quote case after case in which this symptom had never been noticed, and curiously enough in such cases the stone is often proved to be both large and irregular. But I will only allude to one brought before this society in the year 1896 by Dr. Arthur T. Davies. The patient was a man, aged 23 years, who for two years had been liable to attacks of renal colic. There was a history of his father having passed a stone. "He had not noticed any alteration in the colour of his urine." A calculus composed of oxalate of lime and uric acid was extracted by Mr. S. Paget.

3. *Hæmaturia may be the only symptom.*—The hæmaturia may be profuse and yet quite unassociated with pain. Such was the case in a patient who came under my care in Job Ward, Guy's Hospital, in 1899. He was 64 years of age. He was thin and pale and had lost one and a half stones in weight during the previous 12 months. His symptoms commenced ten months before admission when he first noticed blood in his urine. This was at first observed only in the morning, but latterly had been continuously present. He had suffered no pain in either loin or pain on micturition. Some frequency of micturition had been experienced, chiefly at night, but it was not marked. He did not strain to pass urine and there was no dribbling. The blood was always evenly mixed with the urine and there were no clots. It was of the colour of porter. I discovered that the right kidney was enlarged, smooth, and painless. He was repeatedly skiagraphed with negative results. The urine contained no pus and he passed on an average 250 grains of urea in 24 hours. Taking the age, pallor, wasting, painless tumour, and profuse hæmaturia, together with the negative result of the skiagraph, into consideration I came to the conclusion that the patient was suffering from cancer of the kidney, but I recommended an exploration and was prepared to remove the kidney if necessary or advisable. On Nov. 28th, 1899, I exposed the kidney by an incision through the loin and found it in a hæmato-nephrotic state and filled with stones. I drew off the liquid blood by means of a cannula and then excised the whole organ. It contained six oxalate of lime stones, the largest of which weighed 200 grains. The patient was discharged cured on Jan. 5th, 1900. This case shows that profuse hæmaturia may be the only symptom present when the kidney is being destroyed by multiple calculi, for the patient was quite unconscious of any tumour in his abdomen until I discovered the enlarged kidney and was quite free from pain.

4. *Hæmaturia due to calculus is almost invariably excited or increased by severe exercise.*—This becomes more evident and characteristic if the patient is employed in a sedentary occupation. Thus, a patient from whom I removed a calculus two years ago was in the habit of sitting in his office six days in the week and of taking a long country walk of many miles on Sunday. On Monday morning after these walks he noticed that hæmaturia was regularly present. Riding in omnibuses or motor cars, taking long railway journeys, and such like, are extremely liable to excite hæmaturia if a renal calculus be present.

5. *Hæmaturia following an attack of renal colic is very characteristic of calculus*, especially if the colic follow severe exercise. It is, however, by no means regularly present after, or in association with, colic. Colic frequently occurs without hæmaturia and hæmaturia without colic.

6. *Hæmaturia dependent on calculus quickly subsides with rest in the horizontal position.*—Being commonly caused by the wounding of vessels through the movement of a calculus within the kidney, or by the movement of the kidney itself when containing a stone, rest in bed contributes in this more than in other conditions to the rapid subsidence of the hæmorrhage.

7. *Calculous hæmaturia may be so great as to cause death*, in such rare cases as those in which ulceration takes place into a large branch of the artery or vein. It might have caused death in the old man whose case I related under paragraph 3 had not nephrectomy been performed, and it actually caused death in the case reported by Dr. Steavenson before alluded to, on the seventh day after nephrectomy, from the ulceration caused by a stone that had been left at the operation extending into a large branch of the renal artery. As a rule, the narrow outlet prevents this fatal accident. Coagulation takes place in the ureter and backward pressure stays the hæmorrhage at the expense of the secreting structure.

III.—FREQUENT MICTURITION.

Frequent micturition may be met with in association with renal calculus, but it is by no means constantly present, and it would appear to be due more often to conditions secondary to the stone than to the reflex effect of the calculus itself. Thus if the stone excite pelvic mucus in quantity, hæmaturia, or pyuria, any one of these conditions may be the immediate cause of the irritable bladder. Of these, pus in the urine is by far the most frequent concomitant of irritable bladder. Urine loaded with deposits of phosphates or lithates may also be found in association with renal calculus and these deposits rather than the

presence of the stone are the probable cause of the frequent micturition.

1. *Frequency in micturition may even give place to extreme tolerance*, as in a patient from whose left kidney I removed seven calculi in November, 1900. This patient, to whom I shall again allude in connexion with the diagnosis of multiple calculi, stated that owing to the pain of straining to pass urine which was severely felt in her left side she was in the habit of only passing it once in the 24 hours. Her urine was clear and free from blood and pus.

2. *Extreme irritability of the bladder and painful micturition felt in the perineum and at the end of the penis may be caused by a stone impacted in the ureter.*—So marked were these symptoms in a case published by my colleague, Mr. F. J. Steward, in vol. xxxiv. of the Transactions of the Clinical Society, that he was induced to open the bladder and was then able to feel the stone through the bladder wall lying in the ureter. A stone was lodged in the ureter, I have little doubt, in the case of a man who was under my care in Guy's Hospital last year suffering from similar symptoms. This man had suffered from repeated attacks of right renal colic and hæmaturia, but vesical irritability, with reflected pains along the perineum and penis, were also marked symptoms. The Roentgen rays failed to demonstrate the presence of a stone, but the pains were so clearly traceable to the right kidney that I explored it through the loin with a negative result. As so frequently happens, the operation entirely relieved him of his symptoms and he left the hospital quite free from pain. He returned three months later with a recurrence of the symptoms, and whilst I was contemplating an operation on his ureter he voided a small calculus with his urine and was thus completely relieved.

From these observations it will be deduced that frequent micturition, occurring independently of any abnormal urinary deposit and due to reflex irritation, bears a closer relation to the ureter than to the kidney, and when it is associated with renal calculus the stone will probably be found in the dilated upper part of the ureter or pelvis of the kidney and not imbedded in the secreting structure.

3. *Frequent micturition, sudden uncontrollable desire to pass urine, and incontinence* may be met with in children from the presence of a stone in the kidney. I have also seen reflex distension of the bladder brought about by the same cause acting through a different circle of nervous influence.

IV.—RETRACTION OF THE TESTIS.

Retraction of the testis may be occasionally noticed during an attack of pain in adults, but it is a much more obvious and important sign in children under the age of puberty. I have seen the testis drawn completely up into the inguinal canal in a boy during an attack of pain. More often it stops at the external abdominal ring. After puberty, as the testis increases in weight and the cremaster grows feebler with age the retraction of the testis becomes less obvious and consequently its importance as a symptom of less value.

V.—THE PASSAGE OF SMALL CALCULI OR GRAVEL ON PREVIOUS OCCASIONS.

The passage of small calculi or gravel on previous occasions is perhaps the most important information that can be obtained from the former history of the patient. With such a record occurring in a patient the subject of hæmaturia and renal pain the presumption of a calculus retained in the kidney would be a sound and almost certain deduction. Such a history was obtained in the case of a woman from whose left kidney I removed seven faceted calculi in the year 1900. She had suffered from unilateral pain in the loin for five years and had passed at intervals two calculi as large as peas and several smaller ones. A history of having on two occasions passed a small calculus was present in another case that I operated upon last year.

VI.—THE GRATING OF MULTIPLE CALCULI.

This is the only definite indication that we possess of the presence of multiple calculi, and for it to be obtained it is necessary that two at least shall be in contact. I have met with it on three occasions. The first occasion on which I had an opportunity of feeling the grating of stones in a kidney was in June, 1885, in the case of a patient who had suffered for 17 years from hæmaturia at intervals and who had a moveable right kidney that could readily be grasped and the stones contained within it grated one on another. This kidney when removed was a mere shell containing masses of stone that weighed 21 ounces. The second case in which I had an opportunity of testing this symptom was in a boy, aged 15 years, who was under the care of Dr. J. F. Goodhart in 1888. He referred his symptoms to the left side and when the neighbourhood of the last rib was pressed upon a grating sensation could be very distinctly felt. So evident was this grating that some were inclined to think that he might have fractured his last rib. Subsequently it was shown that he had numerous calculi in both kidneys, the left being a capsule filled with stones. The third case in which this symptom was noticed came under my care in Martha Ward on Nov. 5th, 1900. The patient was a married woman, aged 29 years. As I have already alluded to her case as presenting certain anomalies I will give it now in more detail. The patient, who gave a sound family history, had given birth to two children, aged five and three and a half years respectively. Pain commenced in her left loin five years before and whilst under treatment she passed a stone of the size of a pea and was relieved. The pain returned one and a half years later and then, whilst again under treatment, she passed one large stone and several smaller ones and was relieved. But the pain in the left side recurred and had been increasing very much during the last three weeks. The pain became acute when walking, but subsided on lying down. She had never noticed any blood or deposit in her urine. She had no difficulty in passing urine till three weeks previously, when she had to strain, and the pain in her left side when straining became so severe that she only passed her urine once in the 24 hours. She had shooting pains which were confined to the left side and the pain was most acute before passing urine. On manipulating her left kidney in the bi-manual method a definite grating could be felt. The urine was of clear straw colour with a specific gravity of 1024 and contained neither blood nor pus. The skiagram showed a dark shadow two inches by one and a half inches in diameter. I operated on Nov. 20th and removed seven faceted stones from the pelvis of the kidney. She was discharged cured on Dec. 14th, 1900.

VII.—TOTAL SUPPRESSION OF URINE.

When symptoms of total suppression of urine set in with intense pain in one loin shooting through to the front and down to the groin, constant futile attempts to pass urine, vomiting, headache, giddiness, and restlessness, the surgeon should at once take into consideration the probability of those symptoms being caused by a calculus obstructing the outlet of the only remaining kidney. I had for some years been advocating operation for the relief of such symptoms, as case after case was published ending fatally, before I had the opportunity of putting my views to a practical test. This happened at the end of October, 1885, when the patient already alluded to as having one kidney removed for immense calculi that could be grated together during life was seized with the symptoms of total suppression of urine. Through the promptitude of Mr. F. D. Atkins of Sutton, Surrey, I was able to get the patient brought up to London and on the fifth day of total suppression I cut down on the remaining kidney and removed a conical stone that was blocking the outlet of the pelvis, and so saved her life. The case was published in full, five years later, in the volume of the Transactions of the Royal Medical and Chirurgical Society for 1891, when she was still living. I am now, by the courtesy of Mr. E. Morgan Hearnden, who is a partner with Mr. Atkins, able to add a further interesting note of this patient. He writes on Feb. 6th, 1903: "I called to-day on Mrs. —— and found her in perfect health; in fact, she has never been ill since you operated on her." So I am in a position to state that 17 years and four months after an operation on a single kidney for total suppression of urine the patient is not only alive but in the enjoyment of good health.

VIII.—SHADOW PHOTOGRAPH BY THE X RAYS.

The demonstration of the presence of a stone in the kidney by means of the Roentgen rays has added much precision to the diagnosis in a considerable number of cases and with increasing experience the number of failures will probably be greatly lessened. At present, however, the shadow photograph, when negative, cannot be implicitly relied upon. When speaking of hæmaturia without pain I related the case of a man, aged 64 years, under my care in 1899, who was repeatedly skiagraphed with a negative result, so that I was led into error in diagnosing his case as one of cancer. Yet I found on exploration that this man's kidney contained six calculi which had practically destroyed the secreting

structure. Whether the blood with which the kidney was filled obscured the view I am unable to say, but certain it is that with ample opportunities and repeated attempts the Roentgen rays failed completely, though the calculi were oxalate of lime. The kidney moves up and down in respiration to the extent of an inch or one and a half inches. This fact and its distance from the surface are the causes, no doubt, of the exaggeration in size so often shown in a skiagram. In 1900 I operated for a second time on a boy whose kidney I had explored unsuccessfully three years before. After the exploration the symptoms entirely subsided but returning led him again to seek advice three years later. This time the Roentgen rays demonstrated a stone said to be one inch by one and a half inches, but when after a prolonged search I discovered it high up in a cavity communicating by a small aperture with the pelvis it proved to be only of about the size of the tip of the little finger. The next case explored by the same radiographer for me in 1900 was that of a patient who had pain, hæmaturia, and phosphatic urine. The photograph taken was said to be a failure, but a stone was thought to be demonstrated on the screen and stated approximately to be from half an inch to an inch in diameter. This proved to be an enormous phosphatic stone with five large branches measuring three and a half inches by two and a half. Whether the radiographer was afraid to state correctly the enormous shadow seen or whether he photographed a small nucleus of a different chemical composition I am unable to say, but it shows that the determination of size by the Roentgen rays may be very misleading. Better results no doubt would be obtained if the patients were instructed to hold their breath and so to fix the diaphragm during the time—only some 20 seconds—required for a skiagraph. Of the three principal forms, calculi oxalate of lime gives the darkest shadow, phosphatic calculi come next in point of clearness, whilst the uric acid are the least defined.

Mr. E. W. H. Shenton, radiographer to Guy's Hospital, states in a paper published in the Guy's Hospital Reports of last year that there had been 28 cases in which calculi demonstrated by the x rays had been found by the surgeon, eight cases in which the surgeon found calculi which the x rays had failed to show, and two cases in which the x rays had discovered calculi which the surgeon had failed to find by operation.

IX.—FAMILY HISTORY.

I have placed this last because, though of some assistance, it is often very misleading. For instance, in the case of the patient who had stones in both kidneys and had never shown the slightest tendency to tubercle, the family history pointed strongly in that direction, for her mother, two sisters, and one brother died from consumption. Her father had gout and died from congestion of the lungs, so that we must presume, if heredity in her case had any influence, that she followed closely her father's line. A history of gout or of the passage of gravel or calculi by some other members of the family, especially if the person lives in a district where the water is hard, might give presumptive evidence in favour of stone. On the other hand, if the patient be of a delicate build, with a strong tuberculous history, and especially if, in addition, there be any evidence of former tuberculous infection about the glands in the neck, lupus of the skin, or ankylosis of a joint from a chronic inflammation in childhood, these indications of a tuberculous tendency must be given their due weight in considering the diagnosis.

X.—VARIOUS CONDITIONS LIABLE TO BE MISTAKEN FOR RENAL CALCULUS.

I have gone so into detail in analysing the symptoms characteristic of stone in the kidney that I must condense my remarks as much as possible in speaking of the various conditions liable to be mistaken for renal calculus.

1. *Tuberculous disease of the kidney* is perhaps more often mistaken for renal calculus than any other affection. Hæmaturia, lumbar and reflected pains, pyuria, and frequent micturition may be present in either case. Yet there are many distinguishing points:

(*a*) The *hæmaturia* of tuberculous disease may be a striking feature in the early stages but it is then accompanied by little if any pain, whereas the hæmaturia of calculus is usually preceded by pain and markedly excited by exercise. In the later stages of tuberculous disease the hæmaturia is often very slight and sometimes it is entirely absent.

(*b*) The *pyuria* of tuberculous pyelitis is an early symptom and often precedes for months any noticeable lumbar pain. Thus a woman, aged 43 years, who was under my care in September, 1900, had noticed the deposit of pus in her urine for three months before she suffered from pain in her right loin. The pyuria of calculus is a late symptom and often entirely absent.

(*c*) The *pain* of tuberculous disease is a continuous dull aching pain not liable to the intense exacerbations or to the wide radiations of calculus. It increases as the disease extends and the kidney becomes dilated into suppurating cavities. Taking these two symptoms pain and pyuria together, I have for years formulated as an axiom for students that "pain in excess of pus indicates stone, pus in excess of pain tuberculous pyelitis."

(*d*) Slight attacks of chilliness not amounting to rigors followed by a rise in temperature are frequent in the course of tuberculous kidney and the temperature at night is often above normal. Renal calculus seldom causes increased temperature.

(*e*) Examination of the deposit of pus by staining and the microscope will occasionally discover the presence of the tubercle bacillus, but it too often fails to be trustworthy as a negative test. Dr. H. S. French, now medical registrar at Guy's Hospital, when my dresser, after repeated examinations in a case under my care at last discovered a single bacillus, but this was quite characteristic and the diagnosis strengthened by this discovery was proved to be correct. The injection of guinea-pig with the deposit is a more certain test. The late Dr. Washbourn thus proved a case of tuberculous kidney for me when staining and the microscope had failed.

(*f*) An important indication of tuberculous kidney in women is the tender thickened ureter which can be felt through the roof of the vagina as it passes by the uterus to enter the bladder. I first discovered this in a case under the care of Dr. (now Sir Samuel) Wilks in Clinical Ward in 1883 and in June, 1884, I was able to demonstrate it to Dr. (now Sir William) Broadbent in a case sent up by Dr. Clarke of Huddersfield for joint consultation. I have constantly taught the importance of this symptom during the last 20 years. The ureter painful and thickened could be distinctly felt in a patient now in Martha Ward under my care whose tuburculous kidney I excised recently for a sinus following drainage of the kidney. Another consequence of this condition is frequently met with. It renders sexual connexion so painful as to be intolerable. This was stated to be the case by the woman I have before alluded to as having pus in the urine before pain was established in the loin. The same thickening of the ureter can occasionally be demonstrated by rectal examination in men.

2. *Moveable kidneys* give rise to attacks of colic accompanied by nausea and vomiting similar to what are observed in the course of renal calculus and the condition is always one improved by rest; but the urine in these cases is almost invariably normal as regards its constituents, though liable to vary greatly in quantity at times, if the mobility has given rise to intermittent hydronephrosis. The discovery of the abnormal mobility of the kidney helps to clear the diagnosis. The aching kidneys described by Dr. Matthews Duncan were for the most part kidneys unduly mobile, a condition which at the time when he wrote was but little understood.

3. *Lithiasis and oxaluria* may occasion hæmaturia and severe pain in the loin, but the pain is not unilateral and the condition is one that can, as a rule, be cured by freely flushing the kidneys by drinking large quantities of distilled water.

4. *Acute Bright's disease and chronic granular or gouty kidney* may give rise to pain in the loin and hæmaturia, but the persistence of the albumin when blood is absent, the low specific gravity of the urine, and the usual indications of arterio-capillary fibrosis in the chronic disease will serve to point out the nature of the malady.

5. *Villous growth in the pelvis of the kidney* is a rare affection which may give rise to very free hæmorrhage without pain or appreciable tumour. Clots may indicate the source of the hæmorrhage and portions of growth washed away may show the nature of the disease.

6. *Malignant growths of the kidney* first indicate their presence by free hæmorrhage and a rapidly growing tumour rather than by pain which is usually a late symptom dependent on pressure upon other organs.

7. *Biliary colic and distended gall-bladder* may be mistaken for right renal colic and enlarged kidney, but the colic

is hypochondriac and seldom penetrates much to the back. Examination of the urine and of the excreta will assist much in the diagnosis. The occurrence of jaundice and light-coloured stools and the discovery of gall-stones among the fæces would indicate the cause of the colic.

8. *Caries of the spine*, especially in children, may give rise to one-sided backache and radiating pains in front as a lumbar abscess is gradually forming, very similar to what is met with as the result of renal calculus. The pressure of the abscess on the renal vein may even cause hæmaturia, as I once saw very remarkably demonstrated some years ago. I was asked to go to Thetford to meet Dr. M. Beverley of Norwich in regard to the daughter of a medical man. She had spinal disease in the lower dorsal region and lately had been passing blood with her urine. I found a large lumbar abscess which I opened and drained. The blood entirely disappeared from the urine on the second day after the operation. A few months later I received a letter from the father to say that hæmaturia had again appeared. I wrote back: "Look out for an abscess on the other side of the spine." This was discovered and opened when the hæmaturia again and finally disappeared. I have seen this young lady as a plump well-developed woman showing little or no evidence of the serious illness which she passed through at the age of nine years.

9. *Colic of the appendix cæci* is another condition that I have known on more than one occasion to be confounded with right renal colic. The appendix varies so much in size and position—one was shown at a meeting of the Anatomical Society last year nine inches in length and directed upwards under the liver—that it is not always easy to ascertain whether the colic takes origin in the appendix or pelvis of the kidney and ureter. The ordinary cases of appendicitis are generally sufficiently indicated by the signs of localised peritonitis, tenderness, fulness, and partial obstruction, but it is not these cases that are most liable to be confused with renal colic. The cases to which I refer are those which give rise to little or no signs of inflammation but depend upon irregular spasmodic contractions of the muscular coats of the appendix in their endeavour to expel some fæcal contents, concretion, or foreign body. Only in January last I removed an appendix from a young man who had had constantly recurring attacks of pain every few weeks for a period of four years. On exposing the appendix no adhesions were found but it was noticed to have an enlarged extremity. When removed and split up a small haddock bone was found lodged in the cæcal end which had been the source of all his trouble. Cæcal colic is generally to be distinguished from renal colic by its lower position and by being confined to the front of the abdomen, whilst the tender appendix can usually be felt and rolled under the fingers.

From the criticism of the various symptoms of stone in the kidney and the illustrations which I have given it will be concluded that too much stress must never be given to any one symptom, since no one taken alone is either constant or trustworthy; but the surgeon must weigh in an even balance the various possibilities and gather from such signs and symptoms as may present themselves the probable cause of their origin.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. E. Wieland has been recognised as *privat-docent* of Children's Diseases.—*Bonn:* A very large ophthalmic clinic has just been erected. It will be opened for use at the beginning of the summer session.—*Breslau:* Dr. Karl Ludloff of Königsberg has been recognised as *privat-docent* of Surgery.—*Copenhagen:* Dr. E. Faber has been recognised as *privat-docent* of Medicine.—*Greifswald:* Dr. Sophus Ruge has been recognised as *privat-docent* of Ophthalmology.—*Jurieff (Dorpat):* Dr. S. Miknoff of St. Petersburg has been appointed Professor Extraordinary of Midwifery and Gynæcology. Dr. R. Weinburg has been recognised as *privat-docent* of Anatomy, Dr. von Bönninghausen-Budberg as *privat-docent* of Surgery, and Dr. J. Meyer as *privat-docent* of Gynæcology.—*Lausanne:* Dr. G. Rossier, *privat-docent* of Midwifery, and Dr. M. Muret, *privat-docent* of Gynæcology, have been promoted to Extraordinary Professorships.—*Lund:* Dr. G. W. Tornqvist has been appointed *privat-docent* of Surgery.—*Marburg:* The rank of professor has been granted to Dr. W. von Lingelsheim, *privat-docent* of Hygiene.

The Lumleian Lectures

ON

INFECTIVE ENDOCARDITIS MAINLY IN ITS CLINICAL ASPECTS.

Delivered before the Royal College of Physicians of London on March 26th and 31st and April 2nd, 1903,

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LECTURE III.[1]

Delivered on April 2nd.

MR. PRESIDENT AND GENTLEMEN,—At the close of my last lecture I was considering the symptoms of infective endocarditis and was directing attention to the anomalous forms of the disease and to the fact that these may run a fatal course with little or no pyrexia.

Excessive perspiration was a marked symptom in many cases. Two men and one woman suffered so much with this symptom that the clothes were changed three or four times in the 24 hours.

Most of my patients were in a very blanched condition on admission, the anæmia being more marked than is usual in advanced disease of the heart with cachexia. In many instances, in patients with cardiac symptoms, the presence of profound anæmia excited a suspicion as to the nature of the disease. The pallor is, I think, usually most marked in the chronic cases and rapidly increases, so that the subjects sink into a state of profound cachexia, resembling that met with in pernicious anæmia, chronic phthisis, and cancerous affections. The examination of the blood carried out in several cases indicated that the anæmia was rapidly progressing. In one case, that of a female, the red blood corpuscles, soon after admission, equalled 3,000,000 per cubic millimetre; in about three weeks they were 2,060,000 and the hæmoglobin fell from 50 to 35 per cent. Her temperature was not excessive. There was an increase in the number of leucocytes in all cases except two. One or more joints became temporarily painful with or without swelling in eight cases.

Epistaxis was an early symptom in six cases and occasionally recurred, once with such severity that it contributed to the fatal termination. Petechiæ were present in ten cases, most commonly distributed on the trunk and legs; in one they were present on the face, in another on the upper extremities and eyelids, and in a third on the mucous membrane of the mouth. In one case only hæmorrhages were found on the retina, but the fundus of the eye was not systematically examined. A papular eruption was observed in one case and an erythematous eruption in another. In two cases there was superficial sloughing of the gums and throat.

Diarrhœa was present in 35 cases. In several it was an early symptom: in two cases it occurred three months before admission into the hospital and was the symptom for which relief was sought. Both these patients were intemperate and, besides the chronic valvular trouble, suffered from kidney disease. One died from uræmic coma preceded by asthma and the other from pneumonia. The intestines were in a catarrhal condition in many instances and hæmorrhagic patches were common. In one case small ulcers were present in the small intestine. In some cases the diarrhœa was severe and the evacuations were dysenteric, but in the majority of cases it was only slight—that is, it was limited to occasional loose discharges once or twice a day.

In about 15 cases there was vomiting, sometimes of an obstinate character. A case referred to by Dr. W. S. Kirkes emphasises the prominence occasionally assumed by the gastro intestinal symptoms. A man was admitted to St. Bartholomew's Hospital with the ordinary symptoms of rheumatism, and developing ulcerative endocarditis, who suffered from diarrhœa and vomiting to such an extent that Dr. G. Burrows, under whose care he was, suspected that he

[1] Lectures I. and II. were published in THE LANCET of April 11th (p. 1007) and 18th (p. 1073), respectively.

was the victim of an irritant poison administered by his friends. In all cases where vomiting was severe the stomach was found to be injected and occasionally superficial hæmorrhages and erosions were present. In one case a chronic ulcer was found in the lesser curvature. Vomiting and diarrhœa are sometimes present in the final stages of chronic heart disease and cannot, therefore, be regarded as more than suspicious symptoms. In 60 cases of advanced heart disease I found vomiting occur in 16·6 per cent. and diarrhœa in 10 per cent. In the infective form vomiting was noted in 25 per cent. and diarrhœa in 53 per cent.

Albuminuria and hæmaturia are common in infective endocarditis. In my cases the urine was albuminous in 29 instances, and 15 of these contained blood. The frequent occurrence of blood and albumin is sometimes the result of infarctions and sometimes of inflammatory changes. The fact that the average weight of the kidneys in the series of chronic endocarditis was 5·2 ounces and in the infective series 6·9 ounces indicates that parenchymatous changes were commoner in the latter. In my cases the condition of the kidney was frequently described as cyanotic or as large, firm, and congested. In eight there was distinct macroscopic evidence of nephritis.

With regard to the effects of renal infarction, the late Dr. W. M. Ord [2] and Dr. G. Schorstein [3] have each published a case of infective endocarditis with recent infarcts in the kidneys unattended with the presence of blood or albumin in the urine and in one of my patients a similar lesion occurred without any clinical phenomena.

Enlargement of the spleen, a valuable physical sign of the disease, was almost invariably present. In comparing the size of the spleen in 64 cases of simple disease of the valves and in the same number of cases of infective endocarditis, the average weight in the former proved to be 8·9 ounces, the minimum being 2 ounces and the maximum 26 ounces; while in the latter the average weight was 14·9 ounces, the minimum being 7 ounces and the maximum 55 ounces. The spleen in the chronic infective cases was usually larger than in the acute cases and often quite firm. In two of my patients a tumefaction of the spleen was one of the first symptoms to arrest attention. Several instances are recorded where the spleen in infective endocarditis has assumed enormous proportions—one a case under the care of Sir Lauder Brunton and another under the care of Dr. C. J. Macalister, whose patient, a boy, aged 11 years, was admitted into the Royal Southern Hospital, Liverpool, suffering from what at the time was thought to be leucocythæmia. His spleen was greatly enlarged, extending to the pubes, and now and again he had febrile paroxysms lasting for a few days. Subsequently he was seized with severe rigors and vomiting, the temperature rose to 107° F., and a loud mitral murmur was noted. He was treated by sulphocarbolate of sodium and gradually recovered, but the mitral murmur remained. He was seen four years later by Dr. Macalister and was then suffering from cardiac dropsy and the spleen appeared to be of normal size. When embolism of the spleen occurs in a patient under observation and is attended with pain, swelling, and the development of friction sounds over the organ, or when embolism of a kidney takes place and gives rise to pain and the appearance of blood in the urine, valuable indications of the nature of an endocarditis are afforded.

The endocardial murmurs in many of my cases were not due to the recent endocarditis, nor, indeed, were they modified by it, but were the consequence of the chronic lesions. For example, in the instance of the subject of abscess of the myocardium the stethoscopic signs were due to the mitral stenosis and the physical signs in the cases of malformation arose from the congenital defects and were in no way dependent upon the acute endocarditis. The development of excrescences in certain situations, as on the ventricular surface of the anterior mitral cusp and in the cavity of the left auricle, could not be attended with any stethoscopic signs; the murmurs noted in these conditions were due to the aortic and mitral regurgitation which preceded and determined the localisation of the infective process and in the absence of these chronic or congenital lesions the infective endocarditis could hardly have been recognised.

Although physical signs pointing to the development of destructive lesions of the heart are necessarily more commonly met with in ulcerative cases of endocarditis, some variation in the character of murmurs may occasionally be noted in the more chronic forms of the disease. In a lad, aged 17 years, when he was first examined a systolic murmur was limited to the apex. At the end of five weeks his temperature became normal and he went home. As he did not gain strength he returned to the hospital in six weeks when it was found that the heart had become more dilated, the apex beating five inches from the mesial line, instead of four, its former position. Double aortic murmurs were audible and the pulse had become characteristically jerking. After death no ulceration of the aortic cusps was discovered, but a crop of vegetations had developed on the valves which were otherwise healthy. The mycotic disease appeared to have originated on the sclerosed mitral cusps and subsequently to have invaded the aortic segments. Another youth, aged 19 years, when he entered the hospital had a very loud systolic murmur at the apex, audible in the back and all over the præcordium, replacing the first sound and accompanied by a thrill. Ten days afterwards a diastolic aortic murmur developed. At the necropsy the mitral orifice was found to be greatly widened, the left auricle and ventricle being much dilated; the majority of the chordæ tendineæ were ruptured and covered with warty growths and a few recent vegetations were found on the aortic valves. Here, as in the last case, the primary disease was probably seated at the mitral orifice and the aortic cusps became subsequently involved. In another lad a diastolic murmur developed in a similar manner. In a fourth patient a systolic murmur increased in intensity and many of the chordæ tendineæ were found to be destroyed. A female patient had a pre-systolic murmur on admission; in ten days it gave place to a musical systolic bruit. The lower edge of the anterior mitral cusp was found to be detached by ulceration. A sixth patient, admitted with the physical signs of free aortic regurgitation and with double murmurs over all areas, developed a musical systolic murmur. In one or two of my patients aortic diastolic murmurs became musical and in one of these an aortic cusp was ruptured and everted. In another instance the same alteration in the sounds occurred and no explanation of the phenomenon could be discovered. At the necropsy the left ventricle was enormously dilated. The most common and significant modification of the heart sounds was the intrusion of a diastolic murmur. In a case of acute gonorrhœal endocarditis which I attended with Dr. R. R. Rentoul the first indication of an affection of the heart was the development of an aortic systolic murmur; about four days afterwards a diastolic murmur occurred and the heart rapidly dilated.

The endocardial bruits associated with the ordinary chronic lesions of the valves of the heart may, as the structures become more deteriorated, suddenly undergo great alteration in character. Modifications of this description are not infrequent in degenerative affections of the aortic cusps. A few months ago I saw a man, aged 30 years, who as the result of rheumatism three months before had suffered from endocarditis and developed double aortic murmurs. Two months after his first visit the diastolic murmur had become so loud and musical that it annoyed him when he lay down at night. He was otherwise well. An old man was once brought to consult me by his wife who complained that there was something twanging in her husband's chest which kept her awake. Here, too, a simple diastolic murmur which I had heard on a previous occasion had become musical. Sudden modifications of the heart sounds are so suggestive of infective endocarditis that the temperature of the subject of the phenomenon should be taken for several days to exclude the possibility of the disease being present.

An alteration in the character of the pulse tracings was noted in several cases. In two cases the pulse wave assumed the characteristics of aortic obstruction and the aortic valves were found to be covered with fungating growths. Another showed a similar tracing when admitted and a like lesion was discovered at the necropsy.

In several of my patients there was evidence of rapid dilatation of the heart, but as this symptom is to be noted in progressive cardiac cachexia it is not, taken alone, of much value as a diagnostic sign in infective cases.

The great majority of my cases were of chronic type, the symptoms of the infective disorder persisting for several months. One case extended over eight months; the patient was in the hospital for seven months and his illness commenced some weeks before he entered. Four cases were under treatment for six months and these had been suffering

[2] THE LANCET, April 14th, 1888, p. 724.
[3] THE LANCET, March 20th, 1897, p. 811.

from one week to two months before entering the hospital from diarrhœa, sweating, pain in the joints, or epistaxis, so that the disease was also in these cases of long duration. Five cases were under my care between four and five months, eight between two and three months, and the remainder were in the hospital under one month. In the majority of these cases there was a history of illness of some weeks' duration before admission.

When the affection commences insidiously without initiatory rigors, as is frequently the case in the chronic forms, it is difficult to ascertain the date of the period of invasion and therefore to estimate the duration of the disease. In many cases, however, some idea of the duration of the disorder before coming under observation was acquired from the history of night sweats and diarrhœa. Rigors were an early symptom of infection in a few cases only. In two cases—the patient in one case being a plumber and in the other an intemperate man—the symptoms of invasion pointed to acute renal trouble, there being pain in the back and scanty dark-coloured urine which on examination was found to contain blood. In two other cases the first serious manifestation was an attack of syncope, in one five and in the other six weeks before admission. The earliest symptoms in 12 cases were diarrhœa and night sweats commencing from three weeks to four months before admission; all these patients were very pale, weak, and emaciated on entering the hospital. In 15 instances relief was sought for an aggravation of some previous manifestation of chronic disease of the heart or for the sudden development of such indications—namely, œdema of the lower extremities, palpitation, cough, and dyspnœa. Sometimes these symptoms were associated with night sweats or gastro-intestinal disturbance and renal trouble.

Cerebral embolism proved fatal in six cases and cerebral hæmorrhage in five. One patient died suddenly in convulsions and after death a large hæmorrhage was found in the head of the pancreas between it and the duodenum. Death was due to pneumonia in 18 instances and to acute pleurisy in two cases. In many of the cases of pneumonia the affected lung was in a state of grey hepatisation. Two patients died suddenly with symptoms resembling angina; in one the coronary arteries were blocked by calcareous deposit, while in the other, who screamed with pain in his chest just before death, the coronary arteries were closed by recent vegetations. Five patients died suddenly; in these the aortic valves were seriously involved. Death in 14 of my cases appeared to be due to the cachectic condition to which the patients were reduced, brought about not only by the septicæmia but also by the physical trouble and degeneration of organs associated with advanced heart disease. Five died with uræmic symptoms. Dr. W. Hale White has referred to uræmia as a frequent cause of death in infective endocarditis and has described a case of this disease associated with kidney trouble where the temperature was normal for three or four weeks, the renal disease, as in several patients under my care, masking the heart affection.

The difficulties attending the diagnosis of endocarditis are sometimes insuperable, for trustworthy clinical indications may be wanting. I have already referred to the anomalous character of the temperature in certain cases, more particularly in those of the chronic class, and to the occasional absence of fever even in subjects of the acute type of the disease. M. Claude[4] published two cases of malignant endocarditis without pyrexia. The patient in one of these cases entered the hospital with dyspnœa, albuminuria, and hypothermia. The râles from bronchitis prevented satisfactory auscultation of the heart sounds. Death occurred from coma. The necropsy revealed ulcerative and vegetative lesions of the aortic valves. In this case and in the other presenting the same peculiarity streptococci were found in the vegetations and at the base of the ulcerations. In a patient under the care of M. Petit[5] suffering from ulcerative endocarditis there was also an absence of pyrexia and of stethoscopic signs. Dr. Hale White refers to the influence which disease of the kidneys exerts on the symptoms of infective endocarditis, the kidney trouble overshadowing the heart trouble, and he gives the history of a case of infective heart disease with slight pyrexia on admission and the absence of fever for three or four weeks subsequently, the urine all the while being albuminous, sanguineous, and of low specific gravity. In M. Petit's case just referred to it is stated that the kidneys were affected and that the patient died from dropsy and exhaustion. Dr. Leslie Phillips[6] has published two cases of infective endocarditis with Bright's disease where the temperature did not rise above normal during the last days of life. Dr. A. E. Sansom[7] notices the absence of pyrexia in an otherwise typical example of infective endocarditis. Kirchensteiner[8] relates a case of pneumococcic endocarditis where pyrexia was absent until a few days before death. Sometimes, and especially in acute cases, the recognition of the disease is rendered impracticable by the non-existence of the physical signs of endocarditis. The late Dr. J. Curnow[9] published the case of a patient in whom the physical signs of heart disease were absent and who appeared to be suffering from pyæmia or severe typhoid fever. The late Dr. Julius Pollock[10] described a case of ulcerative endocarditis where there was neither enlargement of the heart nor murmurs. Mr. Laurence Humphry[11] gives particulars of a similar case. Examples of infective endocarditis with an absence of evidences of heart trouble have also been met with by Lancereaux, Harlitz, Sanguine, Purser, and others. The occasional absence of endocardial murmurs in infective endocarditis is to a large extent due to the fact that the edges of the curtains of the valves are not invariably involved.

When the valves of the heart are involved in a primary or secondary affection, originating in pneumonia, typhoid fever, or urethritis, or in some local or general condition capable of causing infection, the development of a murmur or other sign of endocardial trouble is of great diagnostic value, and the significance of the physical sign is increased if it is attended by a renewal, or alteration in the type, of the pyrexia. At the same time it must be borne in mind that disorders capable of exciting malignant endocarditis may also give rise to the affection in its simple form and further that functional murmurs often occur during the course of an exhausting febrile malady. I have notes of a case of pneumonia in a woman where the resolution was unusually delayed and where a murmur declared itself over the mitral area during the third week, when the temperature was hectic. For a short time there was little improvement in the local or general conditions, but convalescence was slowly established and when she left the hospital the heart sounds were almost normal.

In the complex conditions due to acute general infection with secondary manifestations in several organs, endocarditis, if present, may fail to develop to an extent capable of recognition. The following case of acute pneumococcic infection with endocarditis and other lesions, kindly reported to me by Dr. W. Carter, illustrates the conditions referred to. A man, aged 40 years, entered the Royal Southern Hospital, Liverpool, on Dec. 1st, 1902. His illness had commenced three days before with shivering, frequent cough, and high fever, and he presented the ordinary features of pneumonia. A few days after admission he became hemiplegic, then unconscious, and finally died. No endocardial murmurs were present at any time. At the necropsy there was evidence of acute meningitis. The left lower lobe of the lung was in a state of red hepatisation. On the left posterior aortic cusp was a tuft of vegetations of about the size of a pea, soft, friable, and easily detached. The spleen was enlarged and the kidneys were congested. Pneumococci were found in the pus from the meninges, in the consolidated lung, and in the vegetations.

In less acute cases of septicæmia associated with pneumonia the type of the pyrexia may change on the advent of the endocarditis or a murmur may be noted. A man about 30 years of age, the victim of chronic bronchitis and emphysema, a patient of Mr A. E. Davis of Liverpool, was attacked with pneumonia. On the tenth day there was some indication of a crisis, but the temperature soon became high again and the pulse more rapid. A soft systolic murmur developed at the apex and a day or two afterwards he became hemiplegic and aphasic, gradually sank into a comatose state, and died.

In the absence of positive symptoms the diagnosis depends on the ability to exclude all affections other than acute

[4] Progrès Médical, December, 1901, p. 423.
[5] Ibid., Dec. 23rd, 1899.
[6] THE LANCET, August 4th, 1883, p. 185.
[7] Brit. Med. Jour., vol. i., 1884, p. 463.
[8] Münchener Medicinische Wochenschrift, August 3rd, 1897.
[9] THE LANCET, April 24th, 1886, p. 785.
[10] THE LANCET, August 20th, 1887, p. 369.
[11] THE LANCET, Jan. 28th, 1888, p. 176.

endocarditis likely to cause pyrexia, a method of investigation calculated at times to be attended with failure, as the following cases demonstrate. A man, aged 51 years, of intemperate habits, was admitted into the hospital under my care in 1901 with albuminuria, irregular pyrexia, and evidence of aortic and mitral disease. The spleen was felt below the costal arch. There were emphysema and expectoration of mucus; he died in ten days. At the necropsy the aorta was atheromatous and its valves were incompetent, but there was no recent endocarditis. The pyrexia was due to the presence of miliary tubercles in the lungs. Another patient, a woman, aged 28 years, was admitted in 1898. She was intemperate and had suffered from rheumatism three years before; she had lately complained of weakness, shortness of breath, and palpitation. On admission her temperature was 104° F.; she was very anæmic, cyanosed, slightly jaundiced, and prostrate; there was evidence of slight alcoholic neuritis, the heart was dilated and hypertrophied, with a systolic murmur at the apex, the spleen was enlarged, and the urine was albuminous. The temperature remained high, between 105° and 106°, till the day before her death, and a petechial eruption appeared on the legs. At the necropsy the pericardium was found to be adherent, the heart enlarged, and its muscle pale and soft; the mitral orifice was dilated but the cusps were normal. The spleen weighed 20 ounces and was very friable; the kidneys were enlarged and mottled; the lungs, intestines, and other organs were in a normal condition. Streptococci were found in the spleen by cultivation. The case was one of septicæmia developed in an intemperate, unhealthy woman, but no primary focus of infection was discovered, and the heart, though unsound, was in no way involved in the septic process. A man, aged 39 years, entered the hospital with pains in the joints, evidence of heart disease, slight irregular pyrexia, diarrhœa, and sanguineous urine. Streptococci were found in the blood; death occurred in three weeks. At the necropsy there was simple thickening of the mitral cusps but no recent endocarditis. He also died from septicæmia, but the heart was not involved.

When infective endocarditis develops in apparently healthy individuals the manifestations of general infection dominate over the symptoms of endocarditis; indeed, the physical signs of disease of the valves may be absent for a few days and the difficulties attending diagnosis commensurately increased. This was the course of events in a case I attended with the late Dr. R. Pugh in Liverpool some years ago. A girl was suddenly attacked with high fever and delirium; nothing was found pointing to disease of the heart or lungs, and it was not until a week after the illness commenced that evidence of endocardial mischief appeared in a mitral systolic murmur and was followed by other symptoms of malignant endocarditis.

When infective endocarditis declares itself as a complication of heart disease with failing compensation, as in many of my cases, the symptoms of septicæmia are often ill pronounced and masked by the troubles originating in the embarrassed circulation. Occasionally the affection, even in apparently healthy persons, commences in an insidious manner. The following is a good example of this mode of invasion. Many years ago a young surgeon and valued friend presented himself to me for examination in connexion with a proposal for life insurance. A mitral systolic murmur was present with slight displacement of the heart's apex. There was no history of rheumatism. For about six years subsequently he was actively engaged in private and hospital practice and at the end of that time he called to consult me about his health. He had, he said, been feeling out of sorts for about two months, had lost his energy and appetite, and had suffered from sleeplessness and occasional night sweats. His idea was that he was a victim of neurasthenia and with the view of trying what exercise would do for him he had been away for a fortnight on his bicycle. He was anæmic, his pulse was rapid, and his temperature was 100° F.; the apex beat of the heart was more displaced than on my former examination and the mitral murmur was more marked. With considerable difficulty he was persuaded to stay at home and to give up work. Our impression as to the nature of his case became gradually confirmed as the pyrexia continued and the exhaustion increased. For two or three weeks he struggled against his weakness, spending his days on the sofa and sitting up to his meals. The fever pursued an irregular and intermittent course, usually falling to 99° in the morning but rising to 102° later in the day. In about six weeks absolute rest in bed became imperative. Aortic murmurs developed, the spleen became enlarged, vomiting occurred occasionally, albumin appeared in the urine, certain joints became painful, petechiæ showed themselves, and an acute pleurisy developed. Asthmatic attacks, accompanied by palpitation and pain over the heart, disturbed his nights, his appetite failed entirely, and he sank into a comatose state and died after an illness of three or four months' duration.

In my first lecture I referred to a case of infective endocarditis following chlorosis where also the infection developed in an insidious manner and I believe that the disease not infrequently commences in this obscure way, its mode of invasion being in these instances utterly unlike that described in text-books as characterised by rigors, high fever, and delirium.

I have referred to a case of infective endocarditis which was mistaken for typhoid fever. In another patient who was sent to the hospital as suffering from enteric fever, the fever was of continued type, so that the resemblance to typhoid fever was greater than in the former patient, where the pyrexia followed an intermittent course. The state of the heart, the great enlargement of the spleen, the hæmaturia, the presence of staphylococci in the blood, and the negative result of the serum reaction, all served to indicate the nature of the disease.

Though the serum reaction is calculated to be of great assistance in cases of this description it may sometimes be misleading. A case of great interest is related by Dr. W. R. Matthews[12] of infective endocarditis with ulceration of the mitral valve where the serum reaction gave a positive result and where the appearance of the intestines did not point to a previous attack of typhoid fever. Dr. Hale White and Mr. W. C. C. Pakes have also met with a case of malignant endocarditis giving the serum reaction and cases are recorded where this reaction has been positive in septicæmia and acute tuberculosis.[13]

I am indebted to Dr. Peter Davidson for the history of a patient of his where the clinical evidence was unusually conflicting. A man had rheumatism at the age of 21 years; in 1900, 12 years afterwards, his heart was dilated and a slight systolic murmur was noted over the aortic area. Two years subsequently he was attacked with chills and fever, staphylococci were found in the blood, and the serum reaction was negative. In four days the temperature became normal and remained so for three days, the pyrexia then returned, and on the fourteenth day he developed typhoid spots. The serum reaction was now positive, the spleen became enlarged, pericarditis and pneumonia set in, and the patient did.

I have already referred to a case of acute tuberculosis associated with disease of the heart where an error of diagnosis occurred. There is a close resemblance between chronic tuberculous disease of the lungs and chronic forms of infective endocarditis. In both the onset may be insidious and the symptoms similar—namely, anæmia, wasting, debility, slight pyrexia, and pulmonary troubles. Careful physical investigation, with the examination of the blood and sputum, will probably enable a definite opinion to be formed. When phthisis is associated with chronic disease of the valves of the heart—and the disorder more frequently accompanies mitral disease than was formerly believed—the resultant symptoms necessarily conform to the chronic type of infective endocarditis. Fortunately, in such complicated cases examinations of the apices of the lungs and sputum usually furnish reliable indications of the nature of the disease and disclose the origin of the pyrexia. In one of my cases chronic tuberculous disease of the lungs was associated with infective endocarditis. The disease of the valves of the heart was due to streptococcic infection and not to infection by the tubercle bacillus. I say nothing of tuberculous endocarditis, an affection that has excited much attention during the last few years on the Continent, for I have met with no examples of the disorder and have searched the records of the post-mortem examinations held at the Liverpool Royal Infirmary without finding a single instance of it.

The protracted forms of infective endocarditis present a close resemblance to pernicious anæmia and the likeness is the closer since streptococci may be found in the blood of the subject of either disease. In 1887 a man, aged 50 years, was under my care suffering from pernicious anæmia. His

[12] Brit. Med. Jour., Jan. 24th, 1899.
[13] Ibid., 1902, p. 716.

temperature was hectic in character, the heart was greatly dilated, with loud systolic murmurs at all areas, and there were marked gastro-intestinal troubles and great enlargement of the spleen, the case perhaps being one of splenic rather than of pernicious anæmia. A correct diagnosis was arrived at chiefly on the evidence furnished by the history of this illness, the gradual development of the symptoms of heart trouble, and of pyrexia.

Cardiac thrombosis and embolism associated with chronic disease of the heart are not usually attended with pyrexia. I have, however, met with two instances where these conditions were associated with fever—in one a softening thrombus was situated over a suppurative focus in the myocardium. The symptoms presented by the patient resembled those of infective endocarditis. In the other case a softening thrombus was found on a sclerosed mitral cusp and here again the symptoms were almost identical with those of malignant endocarditis.

With regard to the cultivation of bacteria from the blood during life my own experience coincides with that of others who have occasionally obtained a negative result even when several cubic centimetres of blood have been removed from a vein, especially in cases of a chronic character. The occurrence of leucocytosis may help to distinguish infective endocarditis from typhoid fever. I have, however, as I have before stated, met with two cases of infective heart disease without leucocytosis.

Recovery in infective endocarditis is a rare event and the more acute the disease the less is the probability of a favourable termination. Moritz considers that the disease proves fatal in 80 per cent. of the cases and these figures appear to me rather to underrate the mortality. The evidence that the affection may occasionally end favourably is of two kinds, pathological and clinical. I have already referred to the former and have described anatomical conditions indicative of a healing process, usually partial, but occasionally complete. The clinical evidence alone remains to be considered. I have alluded to the case of a boy who entered the hospital with a diffuse aneurysm of the forearm and symptoms of infective endocarditis and who recovered and died 19 years afterwards from chronic disease of the heart. I will now refer very briefly to one or two other cases where recovery has taken place. In one, a man, aged 20 years, was admitted into the hospital under my care on Jan. 1st, 1900, with aortic and mitral regurgitation. He had suffered from rheumatism at the age of 19 years and had been in the hospital on a former occasion with symptoms of rheumatism and heart disease. Three weeks before entering the hospital he commenced to suffer from breathlessness, palpitation, weakness, night sweats, and œdema of the feet and ankles. He was very anæmic; his temperature for 18 days was 101° or 100° F. at night and about 99° in the morning. There was no evidence of rheumatism or of any lung trouble to account for the pyrexia. The area of splenic dulness measured four inches; the urine was free from albumin but there was a tendency to diarrhœa. Cultures of blood taken from a vein showed staphylococcus albus and staphylococcus aureus. Three weeks after admission his temperature became normal and he left the hospital early in March—that is, two months from the time of his admission. The following case appeared to be an infective endocarditis following parturition and ending favourably. A woman, aged 28 years, was confined of her first child two months before admission to the hospital. Eight days after confinement she had a rigor and rigors were frequently repeated during the following weeks. On admission she was thin and blanched and wet with perspiration; her expression was dull and heavy, her mouth was open, and her tongue was dry; the left ankle was swollen and the skin in its neighbourhood was œdematous; the pulse was small (116) and the area of cardiac dulness was increased. The apex beat was four and three-quarter inches from the mesial line, with faint systolic murmur in the mitral area. The splenic dulness was increased; the urine was free from albumin. Dr. Grimsdale, obstetric surgeon to the hospital, found nothing abnormal in the pelvic organs. The rigors were frequently repeated during the first five days of her sojourn in the hospital. The sweats were most profuse, so that her clothes were changed half a dozen times during the 24 hours. Her temperature was of a very irregular type, for the first week being hectic in character, touching 101° F. with a rigor, and then falling to normal. During the second week the pyrexia followed a more continued type, seldom falling to 99°, and with a rigor reaching 104°. During the second week there was increase in the size of the heart and the mitral murmur became more marked. Staphylococci were found in the blood taken from a vein. There was much nausea, the appetite failed completely, and there was much pain of a wandering character in the joints. At the end of six weeks she commenced to improve. The inflammatory trouble in the left ankle-joint, which at one time appeared likely to end in suppuration, receded, and the temperature became normal two months after admission. She left the hospital three weeks later, and at that time the apex beat of the heart was three and a quarter inches from the mesial line, and the first sound was clear everywhere. A man, aged 51 years, was admitted under my care in 1876 with symptoms of aortic regurgitation. He had suffered from rheumatism at the age of 30 years. He complained of breathlessness, palpitation, and weakness. There was no œdema of the extremities. The pyrexia was of an irregular type, sometimes highest in the evening and at other times in the morning, ranging between 99° and 102° F.; the urine was albuminous. On one occasion he had a sudden sharp pain over the spleen which became enlarged. There was diarrhœa, the bowels acting five or six times in the 24 hours. In about three weeks his temperature became normal, the diarrhœa ceased, and the albumin disappeared from the urine. He soon afterwards left the hospital, the symptoms of chronic heart trouble still persisting. A young woman, aged 22 years, was admitted on Sept. 5th, 1887; she was under-sized and anæmic, with emphysematous chest and varicose veins on the legs. The red corpuscles were 2,000,000 per cubic millimetre and the hæmoglobin was 50 per cent. She had suffered from three attacks of rheumatism and lately had menorrhagia. The present illness commenced with epistaxis four days before admission. The heart was enlarged and there were mitral and aortic murmurs. The spleen was also much enlarged, its area of dulness measuring six inches. She suffered from diarrhœa with sanguineous dysenteric motions, epistaxis, petechial hæmorrhages on the skin, and albuminuria. Her temperature was of a hectic type, generally being 103° F. in the evening. She gradually improved under treatment and was convalescent in six weeks. A man, aged 28 years, entered the hospital with pain and swelling of the ankles, chronic bronchitis, and emphysema. He had had one or two rigors a month before admission. For about a fortnight his temperature was very high and of a hectic type, usually reaching 104°, even 105°, and once 107° F. in the evening and falling to normal or subnormal in the morning. Staphylococcus albus was found in the blood on two occasions. The heart was enlarged and had a mitral systolic murmur at the apex. The splenic dulness was increased. There was no diarrhœa or albuminuria. At the end of three weeks the pyrexia began to diminish. He gradually improved and left the hospital convalescent at the end of two months. I am indebted to Mr. A. M. Watkins of Whitchurch, Salop, for notes of a case apparently of infective endocarditis terminating favourably. A girl while suffering from broncho-pneumonia exhibited signs of mitral regurgitation. At the same period there were high fever, rigors, and sweating accompanied with incessant vomiting. These symptoms continued for many weeks; dropsy developed and two months after the onset of the illness several severe attacks of angina occurred. It was many weeks before the temperature became normal and six months before convalescence was established. She was treated by large doses of quinine, from 20 to 40 grains per day, the drug for many days being administered by the rectum owing to the incessant vomiting. Dr. Nathan Raw also has obliged me with particulars of a case of recovery in which the patient was a girl, aged 10 years, who had suffered from rheumatism three years before and had never felt well since. She entered the Mill-road Hospital at Liverpool on Feb. 3rd, 1902, complaining of severe pain under the left breast. The heart was dilated and there were double mitral murmurs; the pulse was 120; the trunk and limbs were covered with petechiæ and the respirations were 24. There were cough and expectoration. The urine was free from albumin. The temperature oscillated between 101° and 104° or 103° F. and remained high for 11 days; at the end of a fortnight it became normal and the patient rapidly recovered. Streptococci were found in the blood in great numbers. She was treated by digitalis and strychnine.

I will not refer to the cases of recovery recorded in the journals; they are comparatively few in number and

the treatment adopted has been very various. Occasionally the subjects of the disease recover to a certain extent and subsequently relapse. Three of my patients improved for a time and left the hospital, only to return in a worse condition. This was the case with one patient who suffered from congenital disease of the heart. He was first admitted with irregular pyrexia and diarrhœa and loud systolic murmurs across the sternum—double murmurs, loudest over the pulmonary area. After a month his temperature became normal and his general condition improved, so that he was able to go home. He returned in two months, the former symptoms having become aggravated. He lingered for seven months. Another patient entered the hospital for pains in the joints which started, he said, after a rigor seven weeks before. He was very anæmic and he suffered from sweats, vomiting, and slight irregular pyrexia. In about a month his temperature became normal, not rising above 99° F., his general condition had improved, and he left the hospital. He remained fairly well for a time, only suffering from symptoms due to the chronic affection of the valves, but in about seven weeks he returned. His temperature was now distinctly hectic, a diastolic murmur had developed, the pulse tracings had altered in character, and all the former symptoms had become accentuated. I am indebted to Dr. T. Bushby for what appears to be a relapsing case of infective endocarditis. The patient, a youth, aged 19 years, entered the David Lewis Northern Hospital in 1898 with evidence of aortic and mitral regurgitation after rheumatism eight years previously. The temperature was high for several days, fell to normal at the end of a week, then speedily rose again to 103° F., and a day or two later to 105°. It remained high for another week and fell again, only to rise at a subsequent period. There were several exacerbations of this description. In three months he was able to leave the hospital. During his illness the spleen became enlarged, its area of dulness measuring four and a half inches. On one occasion it increased in size and became the seat of pain. No organisms were found in the blood. The urine was for a time albuminous. He remained out of the hospital a month and then returned with pyrexia of a more regular type. On this occasion he suffered from vomiting and the spleen remained enlarged. The temperature gradually fell, but it was ten weeks before it became normal and 17 weeks before he was able to leave the hospital. He remained well for two years, when he again broke down, attributing his illness to losing a situation and want of food. At the end of this period he again came under Dr. Bushby's care with symptoms similar to those presented on former occasions. The pyrexia this time continued for four months and again yielded to treatment.

Sir Douglas Powell in the Lumleian Lectures of 1898 carefully considered the circumstances that govern the treatment of infective endocarditis, directing attention to the necessity of observing certain prophylactic precautions during convalescence in rheumatic endocarditis and reviewing the therapeutic measures likely to be of some use in the disease. With regard to prophylaxis he points out that while infective endocarditis "is frequently started from infection through septic surfaces or centres, in other and a numerous class of cases the disease arises without any intermediate illness from sewer gas emanations, but in the latter cases in my experience it has almost always happened that previous valve lesions from former endocarditis have existed." It is evident, therefore, as Sir Douglas Powell points out, that patients convalescent from rheumatic fever or with simple valvular affections should be protected from possible exposure to sewer gas emanations. Dr. Peter Davidson supplies me with a case in point. He had for some years under his care a man with congenital heart disease. With care and appropriate treatment he was able to lead an active life. In the discharge of his duties, however, he was on one occasion compelled to spend some days in the examination of house property; he was fatigued and possibly, Dr. Davidson thinks, exposed to deleterious influences in insanitary dwellings. While occupied in this way he became ill; febrile symptoms developed, streptococci were found in the blood, and he died from infective endocarditis. The same conditions probably occasioned the genesis of the disease in a patient whom I saw with Dr. J. O'Hagan of Liverpool in 1901. The patient, a young man, just convalescent from an attack of rheumatism, went on a business journey to America and there spent much time in travelling. During his expedition he became very ill and developed right hemiplegia and aphasia; on his arrival home he presented the symptoms of infective endocarditis and died from pneumonia.

No specific remedy has yet been found for infective endocarditis. At one time there was reason to expect that such an agent had been discovered in anti-streptococcic serum, but the success attending its use has not been as great as was anticipated. Only a few days ago Dr. Cyril Ogle,[14] gave a comprehensive review of the therapeutic value of this serum, together with statistical information of the successes and failures experienced in its use, from 1896 to 1901 inclusive. Sir Douglas Powell in his Lumleian Lectures of 1898, to which I have already referred, also gave a tabulated statement of the results of treatment by anti-streptococcic serum up to the date of his lecture. In Sir Douglas Powell's table the successes amount to 25 per cent. and in Dr. Ogle's table to 31·5 per cent. It is evident that the anti-streptococcic serum is only likely to be useful in cases of infective endocarditis from streptococcic infection, and that as the serum prepared from one variety of streptococci is destructive of that particular variety only it is desirable to use a polyvalent serum. Even when the serum has been used in appropriate cases the results obtained are not very encouraging. I find in Dr. Ogle's tables that streptococci only were found in the blood in seven cases and that in but two of these was the serum treatment successful. It may be, as Dr Ogle is inclined to believe, that the injections were not commenced soon enough or that the dose of serum was too small. I am indebted to Dr. Nathan Raw for particulars of his experience in the use of anti-streptococcic serum in the Mill-road Hospital, Liverpool. He used it in five cases of what he considered to be streptococcic infection where the heart was implicated; from 50 to 200 cubic centimetres of the serum were injected in each of these patients without any beneficial results. In one the infective disease followed many attacks of rheumatism; in another erysipelas; in two it succeeded parturition and in the fifth was associated with phthisis. I have obtained no information of an encouraging nature from any other of the large hospitals in Liverpool. I have used the serum without success three times—once in hospital practice, where streptococci were found in the blood, and twice in private practice, where no micro-organisms were discovered on examination. In the case of the patient under the care of Dr. J. Hill Abram in my absence the use of the anti-streptococcic serum was attended with the disappearance of the streptococci from the blood. 100 cubic centimetres were injected in ten days, streptococci and staphylococci being present in the blood. After death staphylococci alone were found in the vegetations and spleen.

The most recent remedies, Creda's collodial silver salts and nuclein, do not appear so far to have given very satisfactory results, though recovery in malignant endocarditis is reported to have followed the use of the silver salt on the continent. Nuclein was used together with anti-streptococcic serum by Dr. Hill Abram in his case of infective endocarditis following pneumonia without any benefit.

It is possible that the future may bring improved methods of serum treatment; meanwhile the physician must not adopt an inert and despondent attitude, remembering that recovery in an apparently desperate case is possible, but must patiently follow the rational indications of treatment, sustain the strength of the patient by the aid of tonics and stimulants, diminish as far as is possible the multiplication of bacteria in the organism by the administration of antiseptics, and strengthen and regulate the action of the heart by cardiac tonics.

In conclusion, I thank you for your kind attention and beg to assure the President and Censors of this College that I am deeply sensible of the honour they conferred upon me in inviting me to give the Lumleian Lectures. I must also thank many friends who have lent me much valuable material.

[14] THE LANCET, March 14th, 1903, p. 720.

THE DATE OF THE EXAMINATIONS FOR THE ENTRANCE SCHOLARSHIPS AT THE LONDON HOSPITALS.—The Jewish New Year will fall on Tuesday and Wednesday, Sept. 22nd and 23rd next. Judging from past years these days may be chosen for the examination for entrance scholarships at the various London medical schools. It has been suggested to us by a correspondent that the deans of the various schools might well avoid these days as well as all Saturdays in making the arrangements for the examinations, otherwise Jewish candidates are disqualified.

An Address
ON
DIETETICS.

Delivered at the Opening of a Discussion at the West Kent Medico-Chirurgical Society on April 3rd, 1903,

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MR. PRESIDENT AND GENTLEMEN,—I wish in the first place to thank you for your kindness in inviting me to open this discussion. At the same time I feel that you have laid upon me a considerable responsibility, for the subject of dietetics is a wide one and to deal with it adequately in the time at my disposal is no easy matter. My task, however, is lightened by your foresight in limiting the scope of the discussion to the *principles* of dietetics, which, I take it, sets me free from the necessity of entering into details and permits a more general view of the subject as a whole. I think, if I may say so, that the society is to be congratulated upon the selection of this theme for debate. Nothing is more striking at the present day than the interest shown by patients and the public in everything that relates to food and diet, whilst the comparative apathy displayed by our profession in such matters is equally noteworthy. Nor has this escaped the notice of the more intelligent of our lay critics. This, for instance, is what a shrewd old lady[1] whose opinions command a large measure of public attention has to say of us in a recent book: "The study of food in relation to health is a branch of medical science as yet in its infancy. ..... Has not the doctor been taught to study drugs for the cure of disease rather than food as the basis of health? He never gives diet much consideration except in the case of over-eating in severe illness. ..... I wish to warn people that if they consult their doctor no diet will be tried. The doctors must be educated by the public." If we are honest with ourselves I think we must admit that those strictures contain a certain amount of truth. In our defence, however, let me hasten to say this, that one main reason why we medical men are often less dogmatic than lay people in matters of diet is that we know better than anyone the truth of the old adage that "one man's meat is another man's poison." It is the foolish layman who is apt to rush in where the angels of healing fear to tread. This factor of personal idiosyncrasy, indeed, is the great stumbling-block in the way of dietetic progress. We can never be quite certain how any given individual will react to a particular kind of food. I have a medical friend, for instance, who is always made violently ill if he eats the smallest particle of plaice, though all other sorts of fish are innocuous to him, and I know another distinguished physician who can eat beef but dare not touch mutton, and everyone here must have met with similar instances. The first point, then, which I wish to make is that the personal factor dominates all dietetic questions and that every change of food must always be more or less of an experiment. Physiologists have not yet arrived at an explanation of these personal peculiarities, but I think that their true interpretation will ultimately be found to lie in individual variations in metabolism. It is extremely likely, in other words, that a man's metabolism varies as much as the colour of his hair or the shape of his nose and that although the end results of metabolism are very much the same in all individuals, yet the steps by which those results are arrived at are capable of infinite variation. My friend Dr. A. E. Garrod[2] has recently brought forward this suggestive view as an explanation of the phenomenon known as alkaptonuria, and no doubt many metabolic diseases can be explained in the same way. Notwithstanding this, I do not think we need give up the attempt to formulate any rules of diet in health and disease in despair. As regards the general principles to be observed science can afford us clear guidance, although in matters of detail there will always be room for differences of opinion and of practice.

Before proceeding to consider the dietetics of disease it will be well for us to have some clear ideas as to the physiology of diet in health. Now, I think that the fussiness—to use what seems the most appropriate word—displayed by many people nowadays about food is not to be commended. As far as possible to take no thought what we shall eat seems the wiser and more excellent way. In particular, I think that arguments based on the character of the human teeth or shape of the alimentary canal as to the food supposed to be "natural" to man are beside the mark. We are no longer savages and it is as "natural" to man in the present stage of his evolution to live under the conditions of civilisation as it was for him at one time to live half naked in a cave. And if our environment evolves, so also must our diet. The fact seems to be that man is pre-eminently an adaptable animal and the healthy man can live upon any sort of diet provided it is capable of digestion and absorption and fulfils two well-defined conditions. These are: (1) that the food yields enough potential energy to supply the daily outgoings from the body in the form of heat and work and (2) that it contains enough proteid to replace the daily and inevitable destruction of tissue. Let us look at these two requirements for a moment.

As regards the amount of potential energy which the food must contain physiologists are quite in accord. Something between 2500 and 3500 calories will be required, depending chiefly upon the nature of the work which the individual has to perform. About 3000 calories would probably represent the requirements of the ordinary town dweller living a moderately sedentary life. Part of this total of energy must be supplied, as we have just seen, in the form of proteid. Whether the rest is to be obtained mainly from carbohydrates or from fats depends largely upon the digestive capacity of the individual and to some extent also upon his purse. Fats are, as a rule, expensive; carbohydrates are cheap and hence the poor man will tend to take a large proportion of his energy from the latter. Amongst the poorer classes, indeed, this tendency is responsible for a certain amount of disease, particularly in children, and by throwing a strain on the carbohydrate-assimilating functions it tends to bring out any inherited tendency to diabetes. Physiologically, as far as the cells are concerned, it seems to be a matter of indifference whether fats or carbohydrates predominate, but ease of digestion seems best promoted by avoiding a preponderance of either. This, too, one can say from the physiological side that the less proteid a diet contains the more should the carbohydrates be increased, for they are more efficient "proteid-sparers"—i.e., they make a little proteid go a longer way in repairing tissue—than are fats.

As regards the second requirement of a healthy diet, that it should contain enough proteid to replace the daily waste of tissue, all physiologists are agreed. Unfortunately, however, there is less accord as to the quantity of proteid necessary for this purpose. Few authorities would now maintain that the amount recommended by Voit—namely, 120 grammes—is absolutely essential, and, indeed, a careful examination of the diet of many apparently healthy persons has shown much lower figures than this. The exact quantity of proteid required seems to vary greatly in different individuals, probably with the bulk of their muscular tissue, and to some extent, also, it depends upon the amount of "proteid-sparers"—particularly carbohydrates—in the diet. What the irreducible minimum, however, below which one cannot go with safety may be we do not know. This is the more to be regretted as the scientific attitude to some systems of diet, such as vegetarianism, must depend to a large extent on the reply to this question.

Habitual use of a diet which fails to conform to the above requirements must inevitably end in disease. The error may be in the direction of excess or deficiency. Amongst the better-to-do of our patients the tendency is to take in too much total energy—i.e., to over-eat. I do not wish to go so far as the Chinese proverb which says that "most men dig their graves with their teeth," but it cannot be denied that many make themselves ill by habitually "doing themselves well." Hence result such diseases as obesity, some forms of glycosuria and dyspepsia, and in many cases also gout and the uric acid group of diseases generally, possibly also arterial and renal degeneration. The popular cry at present is for concentrated foods—the maximum of nourishment in a minimum of bulk—and the makers of patent

[1] Mrs. Earle: A Third Pot-Pourri, chapter i. London: Smith, Elder, and Co., 1903.

[2] THE LANCET, Dec. 13th, 1902, p. 1616.

articles of diet are not slow to respond to the demand. I believe that this is an error. What we want at present is a food which will present a maximum of bulk with a minimum of nourishment—that is to say, one which will fill the stomach whilst starving the tissues. To many overfed persons such a food would be a godsend. At the other end of the social scale, and particularly amongst women and children in hospital out-patient practice, one has abundant opportunity of observing the effects of chronic underfeeding. Amongst the common disorders of which this is a potent contributing cause must be mentioned anæmia, functional diseases of the nervous system, and tuberculosis in all its manifestations.

The results which follow upon an improper proportion of proteid in the diet are less easy to recognise. There is reason to believe, however, that the habitual consumption of quantities of proteid much in excess of what is required to keep the tissues in repair results in some persons in the production of gout and the uric acid group of diseases generally. Probably, also, some cases of chronic renal disease and arterial degeneration may have a similar origin. On the other hand, a diet too poor in proteid seems to bring about a general feebleness of body, for proteid is a great stimulant to the vital activity of the cells, the consequence of which is a lowering of the power of resistance to disease. This may explain the great liability of the native population in India to suffer from the ravages of plague and the comparative immunity of the Europeans whose diet is richer in proteid. I am told, also, by those who have good opportunity of judging that the lower classes in Italy, whose diet is very poor in nitrogenous matter, are very apt to go down before the assaults of acute infective maladies.

Passing to the consideration of the principles which should guide us in the use of diet in disease I would lay stress again upon the importance of the personal factor. It is a wise plan always to ascertain what a patient's dietetic habits are before drawing up rules for him. Nor must his likes and dislikes—or what may even seem his whims and fancies—be altogether neglected. Let us remember the shrewd saying of that great common-sense physician Sydenham, that "more importance is to be attached to the desires and feelings of the patient, provided they are not excessive, than to doubtful and fallacious rules of medical art." Though our rules are now, let us hope, less "doubtful and fallacious" than they were in Sydenham's time we can still not afford to neglect his counsel. Let us avoid, too, the offence of arbitrariness in our dietetic rules. By this I mean that one ought not to order or to forbid any article of diet without being able to give some good reason for doing so to ourselves if not to our patient. I remember a physician who had a very simple method of deciding what a patient should eat and avoid. He simply forbade everything the patient liked and ordered everything he disliked. I need hardly say that such is not the road to success in dietetic treatment.

Another great general principle which we must constantly bear in mind is what I may term the interdependence of the organs. They are "members one of another" and in prescribing a diet suitable to the needs of one organ the physician must never forget the requirements of others or of the body as a whole. I believe that neglect of this principle is one of the most prevalent errors in dietetic treatment. Nothing, for instance, is commoner than to find that a patient's diet has been ruthlessly cut down to spare his diseased stomach or kidneys until his general nutrition is brought so low that his last state is considerably worse than his first. Further examples of this we shall see immediately. Lastly there remains the good rule never to make radical changes in diet abruptly. The scientific justification for this has been furnished by the recent researches of Pawlow, which show that the stomach acquires the "habit" of digesting any particular kind of food easily and secretes a gastric juice appropriate to it, and if the food is suddenly changed it takes the digestive organs a little time to adjust themselves to the new conditions and meantime the patient may suffer.

Coming closer to the subject and asking ourselves what is the value of diet in therapeutics it is well to recognise at the outset that many diseases cannot be influenced by this means at all. Change of diet is not a universal panacea any more than anything else. In enforcing this truth we must often run counter to the wishes of our patients, for nothing is commoner nowadays than for people to expect their medical adviser to draw up for them an elaborate scheme of what they should eat, drink, and avoid, no matter what their ailment may be, and to think that he has neglected his duty if he fails to meet their expectations in this respect. Now I think that there are only three great groups of diseases in which one can reasonably anticipate that dietetic means will be potent for cure. These are: (1) diseases of the organs (stomach and bowels) which prepare and elaborate the food; (2) diseases of metabolism (e.g., fever, obesity, malnutrition, diabetes, and gout) in which there exists a perversion of the usual methods of dealing with the nutritive constituents of the food by the cells; and (3) diseases of the excretory organs (especially the kidneys) which are concerned in removing from the body the end products of the food. Let us now consider very briefly the principles which should guide us in the dietetic treatment of some of these diseases.

As regards the dietetic treatment of dyspepsia—using the term in its widest sense—I would remark first of all that the mechanical form of the food must always be of more importance than its chemical composition. The reason for this is that disorders of the stomach are of comparatively little importance so long as its mechanical power of driving the food on into the duodenum is unimpaired. Now the ease with which this can be accomplished depends upon the mechanical resistance offered by the food to its conversion into chyme. The meals of the dyspeptic, therefore, must be small and must contain no ingredients which are difficult of solution. Cellulose in the vegetable foods and tough connective tissue in the animal are the things which it is of special importance to avoid. In further justification of this principle it may be observed that we do not yet know enough of the chemistry of the gastric juice or of its perversions in disease to enable us with any confidence to adjust the chemical composition of the food to the existing state of the gastric secretion. The only other general rule which I would lay down in dealing with dyspepsia is that it is important to distinguish between functional and organic diseases of the stomach. I know that these terms are open to criticism, but everyone here knows roughly what is meant by them. Amongst organic affections I would class cases of ulcer, carcinoma, catarrh, and dilatation, whilst the functional group—which, by the way, includes by far the larger number of the dyspeptics one meets with—embraces the "atonic" dyspepsias or cases of gastric neurasthenia and the functional disorders of secretion. Now from a dietetic point of view, the main distinction between the two groups is that whereas in the organic affections diet is everything, in the functional it is usually of subsidiary importance. One must be careful not to over-diet the functional cases, remembering the general principle already laid down that the requirements of one organ must not be met at the expense of the body as a whole. I saw the other day, for instance, a patient who had been kept for a long time on a fluid diet under the impression that he was suffering from malignant disease or gastric catarrh. He was much wasted and his bodily strength was greatly reduced. Under the use of a simple mixture and the encouragement to eat plenty of solid food he gained five pounds in weight in a few weeks with a proportionate improvement in all his symptoms. This was a case in which the nervous and blood-supply of the stomach, without which it cannot do its work, had been largely cut off by a diet which, with the best intentions, was designed to lessen the labours of the diseased organ. One is reminded in this connexion of the story of a young man who had lived not wisely but too well, and in consequence of his excesses suffered from serious dyspepsia. His medical adviser tried to induce him to follow a more temperate way of life and, failing in this attempt, sought to frighten him into obedience by telling him that the "coat of his stomach was entirely destroyed." "Well," replied the young man, "if his coat is destroyed the beggar has jolly well got to do his work in his shirt sleeves." That, gentleman, I believe to be the proper attitude to adopt towards the stomach in most cases of functional disorder. Treat it to a little wholesome neglect. In the dietetic treatment of disorders of the bowels, again, the mechanical condition of the food is the key to the situation. In diarrhœa one must select a diet which will leave as little unabsorbed residue as possible, whilst in cases of constipation the direct opposite should be our aim. Now the foods which leave least residue are weak decoctions of the cereals whilst vegetables and fruits leave most. When we are on this subject it might be of interest to discuss whether or not the view so often expressed is correct that the reason for the prevalence of constipation at the present day is the refinement of modern methods of preparing food. I

cannot go farther into this branch of the subject just now, but my own feeling is that this theory is very far from being satisfactorily established. In recent years many authorities have advocated the treatment of neurasthenic conditions by a lacto-vegetarian diet, on the theory that such conditions are often set up and maintained by auto-intoxication from the intestine. I should be glad to know whether anyone here has had any experience of that method. Granted the correctness of the pathological theory the treatment is quite sound, for milk is undoubtedly the best intestinal antiseptic.

Of metabolic diseases we may first consider fevers. The time has long gone by when it was considered sound treatment to starve febrile patients and the modern plan seems to be to feed such cases up to the limit of their digestive capacity. It is questionable, indeed, whether the reaction has not gone too far and whether patients with acute fever are not in danger of being over-fed particularly by anxious friends and enthusiastic nurses. In chronic fevers, on the other hand, one can safely be liberal with diet and it is well in such cases to remember that fever does not in itself contra-indicate the administration of solid food if the patient has a desire for it. Local conditions of the alimentary canal, of course, may render this inadvisable, enteric fever being a case in point. Even here, however, I think it is quite possible to be too strict and we certainly want a more extended series of observations on the effects of solid food in that disease. In all forms of fever it is well to bear in mind the principle that carbohydrates should enter freely into the diet. Fats are disliked when the temperature is elevated and it has been shown that proteids not only fail to arrest the inevitable waste of nitrogenous tissues which fever entails but that their end products tend to increase still further the waste matters by which the blood is already flooded.

Obesity is a disorder of metabolism in which it is easy to over-estimate what diet can effect. One certainly sees cases in which one cannot fairly say that the total intake of food has been in any way excessive. I was consulted the other day, for example, by a man, aged 30 years, who had been growing steadily stouter since the age of 15, yet his diet had been quite moderate in amount. Such cases are hard to treat by mere restriction of food. They seem to depend on some deep-lying peculiarity of metabolism and one is tempted to suppose that in such cases the patient's body is really a more economical machine than normally or that there is an inborn tendency to form fat even at the expense of the other tissues. In the majority of cases in which we are consulted, however—those, mainly, which occur in the later period of middle life—the intake of total energy in the food is certainly beyond the needs of the tissues and where that is the case reduction of the food is the correct principle of treatment. Proteids, owing to the ease with which they are broken down, are little likely to cause harm and, indeed, a free supply of them is necessary if the patient's heart and muscles are to be maintained in vigour. The fats and carbohydrates, therefore, must be the object of our attack. Different "systems" of diet in obesity have been based on the degree to which each of these is respectively reduced but as far as the actual laying on of fat is concerned it is probably to a large extent a matter of indifference. As a rule, it is easier to restrict the carbohydrates because of the large proportion in which they enter into the diet of most people, but if the patient is a free fat-eater it may be advisable to restrict the fats as well. The question of fluids is also of less importance in the treatment of obesity than is commonly imagined. Experiment has shown that restriction of liquids does not appreciably affect metabolism, but if by forbidding a patient to drink with his meals we make it more difficult for him to get down an excess of food then of course such a restriction is justifiable. Alcoholic liquids, on the other hand, are always harmful to the obese, for alcohol is a potent sparer of fat. In the condition opposite to obesity—namely, malnutrition—our danger is that of ordering too one-sided a diet. The ease with which carbohydrates and fats can be stored up in the form of adipose tissue with a consequent increase in the patient's weight is apt to make us forget that to make a patient fat and to make him strong are not necessarily the same thing. Much of the fat put on in the Weir-Mitchell cures and in sanatoriums for consumptives is probably of little use to the patient and disappears rapidly when he returns to ordinary conditions of life. Of late, therefore, importance has rightly been attached to the advisability of a large use of proteid in the diet in cases of malnutrition. Proteid is a powerful cell stimulant and, as we have already seen, there is reason to suppose that if freely represented in the diet the resistance to disease is increased. Hence the value of meat to consumptives.

With the principles of diet in diabetes I may deal very briefly, for there is probably greater unanimity in this matter than in any other dietetic question. Everyone will agree that the object of treatment in this disease must be to remove sugar from the blood and all are aware of the importance of restricting the carbohydrates. It is apt, however, to be forgotten that to many diabetics of the severe type proteids are quite as harmful. Our great guiding principle, then, must be to insist upon a large consumption of fat, for that ingredient of the food alone is devoid of risk. In this disease, too, let us remember the general rule already laid down that the patient's nutrition must not be allowed to suffer in the mere attempt to remove his symptoms. In the severer cases, especially, the advice of the French statesman in another connexion should constantly be present to our minds: "*Surtout, pas trop de zèle!*" I think we would not be far wrong if we adopted it as a general rule that the milder a case of diabetes the more rigid should the restriction of diet be.

If diabetes is a disease about which our views are probably in a fair degree of harmony I fear the same cannot be said of gout. In no question of therapeutics, indeed, are there greater differences of opinion and practice than in the dietetic management of this disorder. One man forbids sugar, another alcohol, and another flesh foods, whilst yet another will put his patient on a diet consisting exclusively of lean meat and hot water. Let us see whether chemical pathology can afford us any guidance in this confusion. I suppose everyone will admit that uric acid is the *materies morbi* in gout and that our chief object must be to prevent its entering the blood. Now the uric acid of the body is derived from two sources. In part it is produced from certain chemical substances contained in the food (exogenous uric acid) and in part it is derived from the cells themselves (endogenous uric acid). The former of these can alone be controlled by diet. What, then, are the foods which yield no uric acid on assimilation? They are these: milk, eggs, vegetables (except asparagus and onions), fruits, and cereals (except oatmeal). On the other hand, all flesh foods, and particularly those which are rich in nuclein, such as the viscera (liver, kidneys, pancreas, and thymus), are fairly rich sources of uric acid and so also are the extractives of meat in all forms. Peas, beans, and lentils also yield uric acid and so does the caffeine contained in coffee and tea. The only strictly scientific diet for gout, then, is one from which all the articles just mentioned are excluded as has been especially insisted upon by Dr. A. Haig. On the other hand, there is the endogenous uric acid to reckon with and even although no uric acid producing substances are taken in with the food enough may still be produced in the body to give rise to gout. That is probably why dietetic means alone constantly fail to cure gout. The endogenous uric acid is the dark horse and in some cases there would appear to exist a vice of metabolism which causes it to be produced in undue amount or which renders its further oxidation impossible. These are the patients who continue to suffer though their diet is as spare as that of a Trappist monk. The question is sometimes asked: Why is it, if flesh yields uric acid, that a diet of lean meat and water suits some gouty subjects so well? The explanation of this apparent paradox I believe to be that such a diet is free from proteid-sparers. So long as these are absent the oxidation of the proteid is so complete that little uric acid is left over.

We come, lastly, to the principles which should guide us in the dietetic treatment of renal disease. Here I would draw a sharp distinction between acute and chronic cases. In acute nephritis, especially so long as blood is present in the urine, an exclusively milk diet is, by common consent, that which gives the best results. Although clinical experience is quite conclusive on this point the scientific explanation of the advantages of milk is not yet forthcoming. To some extent, of course, it acts as a diuretic and it has the advantage of being free from those extractive matters which meat contains and which appear to be irritating to the kidney. The fact already alluded to, that milk is an intestinal antiseptic, may also help to explain its suitability, for under its use products of putrefaction such as the ethereal sulphates which are normally absorbed

from the bowel and excreted by the kidney are greatly lessened. In chronic nephritis affairs are more complicated. I was consulted only last week by two patients who illustrate a couple of fallacies which are current about the dietetics of that disease. Both were men beyond middle life suffering from granular kidney. One of them had been told to eat no meat but to drink milk instead; the other had, on the advice of friends, adopted a diet from which the "red meats" were excluded but which contained chicken and fish. In both instances, I submit, the diet was incorrect, but the error was much graver in the former case than in the latter. In the case of the first patient the general principle on which I have already laid stress had been neglected—namely, that one should never arrange a diet suited to the requirements of one organ to the neglect of the others. Now a patient with chronic renal disease must maintain a vigorous heart, for if his heart fails his blood pressure falls, his urine becomes scanty, and he is apt to pass into uræmia. But a vigorous heart cannot be maintained on milk alone and, as a matter of fact, in the former of these patients cardiac failure was beginning. Hence it is that in chronic renal disease meat must not be altogether abolished from the diet, although foods which contain only the extractives of meat without its albuminous elements should be rigorously avoided. I am aware that animal food tends to send up the blood pressure and in cases where the arterial tension is high it often requires fine steering to avoid the risk of an apoplexy on the one hand or cardiac failure and uræmia on the other—but the latter risk is quite as great as the former, although it is so much oftener forgotten. But what was the fallacy in the case of the patient who ate white meats but not red? Well, it has recently been shown by van Noorden and his pupils that the white meats are as rich in extractives as red, so that the substitution of the former for the latter in the diet, though harmless, is also devoid of advantage. Whilst I am on the subject of fallacies in the treatment of chronic renal disease let me take occasion to indicate another. It is commonly said that even in cases of chronic nephritis in which there is a considerable amount of dropsy, as, for example, in large white kidney, one should allow the patient to drink plenty of liquid in order to promote elimination. Now it has recently been shown by careful clinical observation that this idea is groundless. Restriction of fluids in such cases not only does not interfere with excretion but has the advantage of helping to remove dropsy. One need have no hesitation, therefore, in recommending a dry diet to such patients.

Now, gentlemen, I have come to an end. I have been obliged to exclude many important subjects from this hurried survey, but I have tried to set up as many pegs as possible on which to hang discussion. In particular I regret that I have been unable to refer at all to the important question of beverages. Might I, in closing, venture to suggest that on some future occasion the society should hold a discussion on what, if I may coin a much-needed word, I would call the principles of "bibetics"?

THE DRAINAGE OF THE KNEE-JOINT IN ACUTE SUPPURATIVE ARTHRITIS.[1]

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AN acute pyogenic infection of the knee-joint is one of the most dangerous of suppurative diseases and one of the most unsatisfactory class of cases that a surgeon can be called upon to treat. Other collections of pus in the body can be efficiently and reliably drained and are attacked by the surgeon with confidence, but when the knee-joint is filled with pus a feeling of helplessness and futility appears to overshadow the treatment. The results only too well justify this feeling. Many of these cases of suppurative arthritis occur in hospital and follow wiring of patellæ or removal of semilunar cartilages or foreign bodies. They are under constant medical supervision and therefore they are recognised early. They receive prompt attention and are afterwards treated with all the resources at the command of the surgeon who has had this unfortunate accident, yet what are the results? Many deaths, more amputations, and the rest of the patients after months of suppuration leave the hospital in broken health with the knee ankylosed and often open sinuses.

The method usually adopted to drain the knee-joint is to make lateral incisions two or three inches long on either side of the patella and to pass tubes from these across the joint and up into the subcrureus bursa. The joint is then irrigated with some antiseptic solution such as carbolic lotion (1 in 40) or perchloride of mercury (1 in 1000). The leg is then placed on a back splint and surrounded with copious fomentations or dry dressings.

Mr. Jacobson in his "Operative Surgery," when speaking of draining the knee-joint after wiring the patella, says that, should it be decided to do so, "drainage should be employed through the wound to the most dependent part of the joint at the outer side (Lister), thrusting the instrument here through the joint and soft parts, cutting upon it and drawing a drain through." It was an attempt and a failure to do this in a case of suppurative arthritis which induced me to carry out this investigation of the anatomy of the knee-joint and which led me to plan the posterior incisions recommended in this paper.

In 1888 Sir Frederick Treves advocated in the *British Medical Journal* of July 7th continued irrigation in such cases with some weak antiseptic. By blocking the outlet tube the joint was distended with the fluid once or twice a day. He published two most hopeful cases in which good movement was obtained after the treatment. Quite recently one of Sir Frederick Treves's patients came to my out-patient department at the London Hospital for some other matter. His knee had practically perfect movement. Unfortunately the treatment has not led to similar results in a series of cases under several surgeons at the London Hospital. There have been seven cases in the last ten years treated by this method. Two of the patients died from pyæmia; four had fibrous ankylosis after many weeks in hospital. One patient was 20 weeks in hospital and left with open sinuses. In only one case was a moveable joint obtained.

The great difficulty in considering the value of any treatment is to be sure that it was applied to really bad cases of the disease which it cured, and I am afraid that the very hopeful results of continued irrigation are further militated against by the fact that the first two cases reported appear to have been mild ones. The first had been opened for chronic synovitis and drained. After a week or so the knee became infected apparently when the tubes were removed. They were at once replaced and the knee was more thoroughly drained. Continued irrigation was established a few days later. This joint, which was being drained even before it was infected, can hardly be considered on a par with the cases of punctured wound where for some days the pus is retained in the joint under high pressure and no doubt with increasing virulence. The second case followed a fall without a wound and the temperature was only 101° F.

Many years ago, when I was a dresser, a case of suppurative arthritis of the knee-joint in a child was treated in the London Hospital first with ordinary lateral drainage and then with continued irrigation, but, as both these measures failed to drain the joint efficiently and the temperature continued to range at a high level, the surgeon in charge laid open the knee-joint by a curved incision across the front of it and divided the patella and fully flexed the knee, so that all parts were fully exposed. The result was satisfactory.

Mr. Walter Whitehead has recently reported a favourable case in the *British Medical Journal*. The knee was infected whilst a loose cartilage was being removed. Free drainage and irrigation were adopted but failed. The patient was delirious, his temperature was 103° F., and he was in a state of extreme exhaustion. His knee was then laid freely open by a transverse incision, the patella was sawn across, and the crucial ligaments were divided. The joint was packed with gauze after it had been thoroughly cleaned. The patient rapidly convalesced and in 15 days the granulating surfaces of the joint were placed in an extended position. He made a good recovery with a stiff but straight leg. This method is no doubt efficient in all cases in which the pus has not burst through the capsule behind and is already tracking up and down the leg. But it is heroic and in every case in which it is applied all hope of a mobile joint is necessarily relinquished. The leg is moreover greatly damaged by the free division of the quadriceps insertion and other muscles sending expansions to the capsule of the joint. In short, it should be, as indeed it is, a forlorn hope of conservative

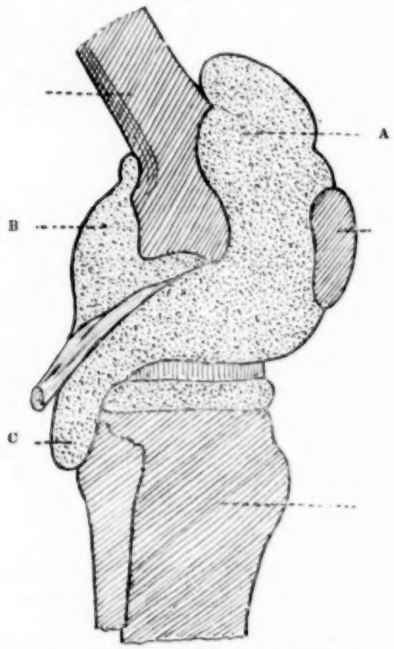
[1] A paper read before the Clinical Society of London on Feb. 13th, 1903.

surgery when amputation is refused or when the surgeon still hopes against hope to save a limb for the condition of which he is responsible.

It was this gloomy experience of the general failure of the present methods for draining the knee-joint which induced me to investigate the anatomy of this serous cavity in order to discover why it was so difficult to drain it, and whether incisions could not be planned which should make the retention of pus within the cavity of the joint impossible.

This figure of the complicated synovial membrane of the knee-joint is taken from Testut's Anatomy. The great subcrureus bursa (Fig. 1, A) is well known and where the

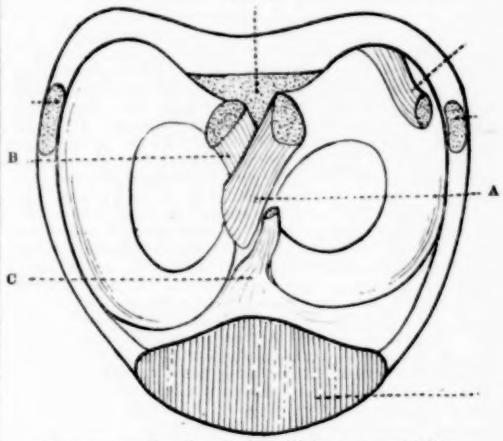
FIG. 1.



Longitudinal section through knee-joint.

joint is drained it is never overlooked; but this is not the case with the complicated pouches at the back of the joint. The knee-joint is divided into two main pouches behind by a septum projecting forward from its posterior wall and formed in order from behind by the posterior ligament, the crucial ligaments, and the ligamentum mucosum (Fig. 2). Each of these pouches receives the posterior protuberant extremity of the corresponding condyle in extension. These pouches terminate above and behind the condyles in sacs which are beneath the corresponding head of the gastrocnemius (Fig. 1, B). The outer pouch also sends a synovial prolongation along the popliteus tendon (Fig. 1, C). The usual method of draining the knee-joint by a tube passed below the patella and another passing up into the subcrureus bursa leaves these two posterior pouches untouched. The leg in such cases is kept extended on a splint, which closes the way to the front of the joint by a coaptation of the bony surfaces. When these pouches rupture from distension with pus their anatomical position directs the pus up to the thigh between the hamstring and the great adductor and down the calf between the gastrocnemius and the deep muscles. It is difficult, if not impossible, to drain both these collections of pus at once. For if the leg be elevated the lower will drain but the upper will not, and *vice versâ* if the leg be lowered. It is clear, then, that each of these posterior pouches must be drained by an incision placed as far back as possible. On the inner side, the knee being fully extended, the protuberant extremity of the condyle is cut down upon and a pair of stout forceps are pushed under the head of the gastrocnemius and withdrawn open. A tube is then inserted. This is more easily done if the knee be flexed as the tube is put in, since this relaxes the head of the gastrocnemius and the posterior ligament. This incision will be found to be between the sartorius and gracilis tendons and usually just behind the internal saphenous nerve.

FIG. 2.



Transverse section through knee-joint. A, B, crucial ligaments. C, ligamentum mucosum.

In a similar way the outer condyle is cut upon. The incision here passes between the biceps tendon and gastrocnemius and just behind the external popliteal nerve. It is important, therefore, in both cases to be careful in the use of the knife and to see that the incision is in the line of these nerves. When the skin has been incised it is easy to scrape down to the capsule with some blunt instrument. The knife can then once more be safely used to open the joint freely. Anatomical guides are useless in practice because of the inflammatory swelling; one knows that the pouch surrounds the prominent condyle, which can easily be felt, and one cuts down until the cartilage of the condyle is reached. A drainage-tube should be passed across the front of the joint beneath the patella and another should be directed up into the subcrureus bursa from either the inner or the outer side. This tube can with advantage be brought out through a median incision at the highest point of the joint anteriorly. The discharge from the anterior tubes rapidly diminishes and the wounds heal some time before the two posterior incisions cease to discharge and close. This is proof in itself that the drainage is practically as well as theoretically correct.

I have treated nine cases by this method, and in all the temperature reached normal in a day or two, appearing to show that no pus remained in the joint under tension. The evacuation of the pus was greatly assisted in several cases by gentle stroking massage of the subcrureus bursa from above and of the popliteus bursa from below, movements which can be simultaneously carried out. As soon as the temperature is normal I would recommend massage and passive movement. These must be carried out by a thoroughly efficient masseuse. The method is the same as for fractured patella and is directed to similar ends. The patella is firmly grasped and moved about on the condyles of the femur, so that it may not form adhesions to it. The knee is then steadily lifted from the bed so as passively to flex the knee-joint.

We have so far seen that anatomy indicates the presence of those large pouches behind the knee and that they can easily and effectually be opened and drained. It only remains to narrate a typical case of acute suppuration which I had an opportunity of seeing some time ago, in which this was not done, and these pouches ruptured and apparently involved the popliteal vein, leading to pyæmia. An old and somewhat alcoholic man fractured his patella. After an interval of about a week the fragments were wired together. Unfortunately, the knee became septic about the third day. The knee was opened by the usual anterior incisions and continued irrigation was instituted. In about a week the patient died. At the necropsy pus was found in

the depths of the popliteal space tracking down into the calf around the vessels and up the back of the thigh. The lungs were studded with pyæmic abscesses. Before narrating the nine cases I have treated in this way I should like to say that they were consecutive. The first four were traumatic cases and have done much better than the last five which were cases of auto-infection.

CASE 1. *Wound of the right knee-joint with a rusty hat-pin; suppurative arthritis; drainage by anterior and posterior incisions; rapid recovery.*—This case was under the care of Mr. C. W. Mansell Moullin who kindly gave me permission to use it. The patient, a little girl, aged eight years, was admitted to the London Hospital on Jan. 18th, 1901. Seven days before admission she ran a rusty hat-pin into her right knee. The hat-pin was extracted by her medical attendant and the wound healed. On admission the right knee was red, hot, swollen, and œdematous and tightly distended with fluid which an exploring needle proved to be pus. Her temperature was 103° F. and her pulse was 110. Her general condition was bad and she suffered great pain in her knee. On the same day Mr. Hugh Lett, who was house surgeon to the case, operated by the posterior incisions recommended in this paper in addition to the usual anterior ones. Pus under high tension spurted from the incision on the inner condyle. The progress of the case was satisfactory. The temperature fell to 99·5° in three days and reached normal in six days. The tubes were removed in 14 days.

It is very interesting to note in this case that the anterior incisions closed some time before the posterior ones, a fact which seems to indicate that a posterior drain is right in practice as well as in theory. She can run and walk well and her knee can be flexed nearly to a right angle.

CASE 2. *Suppurative arthritis of the left knee-joint following lymphangitis and incisions; drainage by posterior incisions.*—A boy, aged 15 years, was admitted to the London Hospital on March 7th, 1901. One month before admission he contracted a sore upon his foot from the rubbing of his boot. Lymphangitis spread up his leg and led to an abscess over the lower part of the tibia and another over the internal condyle of the femur. These abscesses were opened by a general practitioner. On admission to the hospital the lad had a sinus in the lower third of his left leg and another on the inner side of his knee, which entered the popliteal space. The knee was flexed somewhat and contracted. The temperature was normal. Two days after admission the house surgeon straightened the knee under an anæsthetic and thoroughly opened up and drained a large collection of pus lying in the depths of the space near the knee-joint. On the next day the knee became distended with fluid and very tender. The temperature rose to 103° F. and on the following day it was 104°. On March 11th I opened up the knee-joint by five incisions. Two were placed on either side of the patella and a tube was passed across the front of the knee-joint. One passed through the quadriceps into the upper extremity of the subcrureus pouch and a tube was passed from this incision out of the inner lateral incision. Each condyle was cut on to in turn from behind and a tube was inserted. As the joint was opened by the inner incision pus gushed out. The temperature fell from 104° to 99° in 36 hours and the leg became much less swollen and painful. It was some time before the sinuses closed, but the temperature did not again become raised above normal for 24 hours.

I have, unfortunately, not been able to trace this boy and therefore cannot give his ultimate condition which promised to be good.

CASE 3. *Compound fracture of the patella; suture; suppuration; drainage; recovery with good movement.*—This case has already been fully reported in the Transactions of the Clinical Society. The chief points are these. The patient was caught by an engine in August, 1900, whilst crossing the track, and struck upon his patella, so that this bone was crushed and the lower fragment projected from the wound. The parts were freely exposed and thoroughly washed and the more ragged tissues were cut away; finally, the fragments were brought together by a kangaroo tendon after Stimson's method. For seven days the case did well, then cellulitis commenced, and in the course of the next two months much of the subcutaneous tissues round the knee sloughed away. The knee-joint became swollen and very tender. It was therefore opened on either side of the patella and behind in the manner advocated in this paper. His knee was very slow to heal but recovery was hastened by massage and passive movements.

The ultimate result was much better than could have been anticipated. The patella was united by bone and the knee-joint could be flexed to a right angle. He could walk and run practically without a limp. It must be admitted, however, that this was a mild infection. The result is practically perfect as regards his knee, although he still appears to be suffering from traumatic neurasthenia.

CASE 4. *Wound of the right knee-joint with glass; suppurative arthritis; drainage.*—A boy, aged 14 years, was admitted under my care into the London Hospital on March 23rd, 1902. Ten days previously he fell on a piece of glass, wounding his right knee, which had been swollen ever since, but he was able to walk until two days before, when it became exceedingly painful and swollen. On admission the knee presented all the signs of suppurative arthritis. His temperature ranged from 103° to 104° F. His general condition was good, but he had a tendency to be delirious at night. Operation was performed on the day of admission, the knee-joint being laid open front and back and drained with tubes. The drainage was not strikingly efficient in this case. The temperature slowly declined but did not actually reach normal. The change for the better really occurred in his case when Mrs. Palmer, masseuse to the London Hospital, began to massage the joint and to produce passive movement. She found that gentle stroking movements in front from above down towards the patella evacuated large quantities of pus, and that a similar result followed upward massage of the calf behind. Apparently the pus was bagging in these two situations where, as we have seen, deep pouches of the knee-joint exist.

The joint promised to have some movement when the patient left the hospital, but he fell soon after and wrenched it, and since then it has been quite stiff and flexed. I propose to take him into the hospital, to straighten his knee, and to give him a poroplastic splint to prevent recontracture.

CASE 5. *Suppurative arthritis of the left knee probably due to leucorrhœa; drainage; persistent sinuses.*—A married woman, aged 23 years, was admitted to the London Hospital on July 18th, 1902. Three days previously her left knee had become swollen and painful. Her temperature was 100° F. She was three months pregnant. No cause could be found for the suppuration except a leucorrhœal discharge. A needle was inserted into the knee-joint and pus was withdrawn which, although sent to the bacteriological department, was apparently lost. The joint was then drained and irrigated with biniodide of mercury solution in a manner exactly similar to previous cases. For ten days after the operation the temperature remained absolutely normal. The tubes were then removed and the temperature began to oscillate. The tubes were replaced and several subsequent attempts were made to remove the tubes, but on each attempt the joint again became distended with pus and they had to be replaced. At a subsequent operation bare bone was found extending some distance down the back of the tibia, and it seems probable that the mischief in the knee had originated in the head of the tibia.

When last seen the sinuses were still open. The temperature was normal, but the synovial membrane was greatly thickened and pulpy and closely resembled that of a tuberculous joint. I propose thoroughly to lay open this knee-joint at an early date and to deal with whatever condition may be encountered.

CASE 6. *Purulent synovitis of the right knee-joint apparently due to a leucorrhœal discharge in a woman, aged 65 years; drainage; temperature normal next day; later amputation for persistent sinuses and painful joint.*—The patient, an elderly female, was admitted to the London Hospital under the care of Mr. Jonathan Hutchinson, jun., whilst I was his substitute. Six days before admission she was seized with severe pain in the right knee which became hot and swollen. She had several rigors. No cause was given for this condition except that it might have been produced by kneeling whilst scrubbing floors. She had suffered from leucorrhœa for several weeks. On admission her general condition was very bad indeed; she was in a typhoid condition. Her tongue was dry and brown and her lips were covered with sordes. Her temperature was 102° F. The right knee was tense, tender, hot, painful, and red. The exploring needle withdrew thick pus. The knee was freely laid open and drained by four incisions: one on either side of the patella, from the inner one of which a tube passed up into the subcrureus pouch and

another across the joint below the patella. The two posterior pouches were laid open and tubes were passed in through the incisions whilst the knee was flexed, which, it was found, relaxed the structures and enabled the tubes easily to be placed in a good position. The temperature fell to normal on the next day and her general condition rapidly improved. Her subsequent progress was not, however, satisfactory. For a fortnight her temperature oscillated each night from normal to a degree or two above, but when upward massage over the calf was begun it remained normal. This procedure evacuated a considerable quantity of pus from a deep pouch which was probably the popliteus bursa as in Case 8.

When Mr. Hutchinson returned to the hospital about two months after the operation, although the temperature remained practically normal, the knee was exceedingly painful and the poor old woman showed the feeblest signs of repair. All the sinuses were open, although the discharge from the anterior ones had practically ceased. Mr. Hutchinson therefore amputated the leg in the lower third of the thigh. She made a rapid recovery.

CASE 7. *Tuberculous epiphysitis of the lower epiphysis of the femur; incised by a general practitioner; erysipelas; infection of the knee joint; drainage; recurrent attacks of erysipelas; amputation.*—A small ill-nourished boy, aged three years, was admitted to the London Hospital on July 23th, 1902. The history was that seven weeks previously a painless swelling had appeared over the inner condyle of his right femur. This was incised by the family medical attendant who plugged it with gauze and fomented it. 14 days before admission he became feverish and delirious and a red mottled swelling started from the wound and spread up and down his leg; soon after his knee-joint became distended and painful. On admission a sinus was found on the inner side of the right knee which led down to carious bone. The popliteal space was greatly swollen and contained much pus. The knee was obviously the seat of suppurative arthritis. It was drained and irrigated in the manner advocated in this paper and in five days the temperature reached normal and remained there except during a relapse of erysipelas. The patient did not, however, do well. The sinuses remained open and after a serious attempt to remove all the diseased bone from the carious focus in the end of the femur which failed, but which apparently lighted up the septic mischief once more, the leg was amputated in the middle of the femur.

The specimen is shown here. It will be seen that the joint cavity is obliterated by fibrous tissue and the result at the best could only have been fibrous ankylosis. In the lower femoral epiphyseal line in the situation previously occupied by the internal condyle is a carious cavity filled with purulent tuberculous material which formed the primary focus of the whole trouble.

CASE 8. *Acute pneumococcal arthritis of the right knee-joint; drainage.*—This case was under the care of Mr. H. P. Dean who has kindly allowed me to use it. I was substitute for him at the time. A boy, aged 14 years, was admitted to the London Hospital on July 30th, 1902. A month previously he had suffered from influenza from which he was convalescing when seven days before admission he was seized with severe pain and swelling in the right knee which became progressively worse. There had been no accident. On admission the boy's condition was very bad. He was emaciated, his temperature was 104° F., and his pulse was rapid and feeble. The lungs gave no signs of existing disease. His spleen was not enlarged or tender. The whole of his right leg from the lower third of the thigh to the toes was tremendously swollen, red, and œdematous, so that it was at first a matter of doubt whether the case was one of acute periostitis of the tibia with pus spreading up and down the limb or distension of the knee-joint with pus which had extended beyond the capsule behind and involved the popliteal vein and lymphatics. The characteristic position of the knee-joint in semi-flexion with well-marked fluctuation decided the point. A medium-sized trocar passed under the patella failed to evacuate pus but as it was withdrawn a gelatinous cord of pus followed it. The knee-joint was then laid open by anterior and posterior incisions. The cavity of the joint was full of clots which so closely resembled those seen in pneumococcal empyemata that a diagnosis of pneumococcal arthritis was at once made. The report of Dr. William Bulloch, bacteriologist to the London Hospital, was as follows: "Films show no organisms. Culture shows slight growth of cocci in short chains, most probably pneumococcus." The temperature reached normal on the fifth day, but continued to oscillate to about 100° each night until the fourteenth day, when Mr. Dean, who had returned from his holiday, explored the back of the knee-joint, divided some part of the posterior ligament of the knee-joint, and evacuated a pocket of pus tracking down the back of the tibia apparently in connexion with the popliteus bursa. The temperature then ceased to oscillate and the boy rapidly recovered.

I think there is very little doubt that at the time of the first operation the popliteal pouch of the joint had already ruptured and that the popliteal vessels were pressed upon. This would account for the great œdema of the leg and foot which rapidly subsided after the first operation and such a collection of pus, although ill-drained, was certainly found 14 days later.

CASE 9. *Acute suppurative arthritis of the knee-joint occurring in the course of whooping-cough; posterior drainage.*—A little boy, aged five years, was admitted under my care into the London Hospital on August 27th, 1902. For five months he had been suffering from whooping-cough which he still had. Two days before admission he fell, striking his knee but producing no wound or abrasion. He had not walked since the accident. On admission the condition of the child was very serious. His temperature was 103° F., his pulse was rapid and feeble, and he was quite delirious. The knee was distended with pus and was red, hot, and œdematous. The pus removed by the exploring needle was examined by Dr. Bulloch and found to contain a pure culture of streptococci. The knee-joint was freely drained on the day of admission in the manner advocated. The temperature was normal in four days but suppuration continued for three weeks. The tubes were removed 25 days after operation. His recovery was unfortunately delayed by two attacks of erysipelas, but ultimately he was sent away to the country where his sinuses rapidly healed.

He now has slight movement of his knee-joint which I hope persistent massage may improve.

Some of the cases in this series are not, I admit, very happy ones, but they are, as I have said, consecutive. The four traumatic infections which are usually regarded as so much worse did very well. Two patients had good movement and one had some movement when he left hospital. The other has fibrous ankylosis. The five cases of blood infection were most unsatisfactory in their progress. Two patients had the leg amputated but it will be seen that one was an old woman, 65 years of age, in whom though her temperature had been reduced for weeks, the sinuses seemed unable to heal. The other case was one of tuberculous abscess in the end of the femur which became infected with erysipelas and invaded the joint.

The earlier traumatic cases had led me to hope that if the infected joint were taken in time and efficiently drained behind as well as in front, we might confidently count on obtaining a mobile joint, but subsequent cases, more especially those due to auto-infection, have made me less sanguine.

I am still confident that this method of efficient drainage will cope successfully with the immediate dangers of sepsis, septicæmia, pyæmia, and the formation of large abscesses burrowing up and down the leg, for in no case did the temperature fail to reach normal in a few days. It is, however, clear that the subsequent progress of the cases, whether suppuration becomes chronic and sinuses persist or whether the cartilages are destroyed and fibrous ankylosis follows, depends mainly on the cause of the suppuration. We can scarcely hope to save the leg if the disease originates from a focus in the femur or tibia. The two most unsatisfactory cases of all arose apparently from a leucorrhœal discharge. I very much regret that no bacteriological report is forthcoming in either case.

In conclusion, I would advise that all really acute cases of suppuration in the knee-joint, say with a temperature ranging from 103° to 104° F., should be treated by anterior and posterior incisions, more especially if they arise from punctured wounds. When the suppuration arises from auto-infection and is subacute, with a temperature of not more than 102°, I should be inclined—taught by the cases recorded above—first to make lateral incisions on either side of the patella and to wash out the joint thoroughly and to drain it. The joint must be treated as though it were an aseptic case, for in auto-infection we have usually to deal with one micro-organism only, and that often a mild one. We must therefore beware lest in casting out one micro-organism we

admit several others worse than the first. Should this partial drainage fail to bring the temperature down in a day or two the posterior pouches should be laid open and thoroughly drained.

Wimpole-street, W.

*** The two figures illustrating Mr. Barnard's article have been kindly supplied to us by the courtesy of the editor of *The Practitioner*.—ED. L.

INVAGINATION OF MECKEL'S DIVERTICULUM.[1]

BY J. F. DOBSON, M.S. LOND., F.R.C.S. ENG.

ON July 29th, 1902, I saw with Dr. F. J. Coleman of Leeds a little boy, aged four and a half years, who had been suffering for 36 hours from acute abdominal pain accompanied by vomiting and the passage of blood and mucus from the bowel. A swelling had appeared in the right iliac region and a diagnosis of intussusception had been made. When I saw him there had been no vomiting for several hours, but he was in constant pain; the pulse was 120 and the temperature was normal. A soft moveable tender swelling was detected in the right iliac region extending upwards to the right costal margin, which was undoubtedly an intussusception. He was removed to a surgical home and an operation was performed the same evening.

Chloroform was administered and the abdomen was opened by an oblique incision over the tumour, the muscular fibres being separated without division. The peritoneum was opened, a quantity of serous fluid escaping, and the tumour was withdrawn from the abdomen. It was found to be an intussusception of the ileo-colic variety and was reduced without much difficulty until the apex was reached. A pedunculated swelling was then found projecting into the interior of the intestine and forming the apex of the intussusceptum. This swelling was evidently an invaginated Meckel's diverticulum, as shown by the dimpling of the peritoneal surface of the gut and the presence of a small mesentery which disappeared into this dimple. An attempt was made to reduce this invagination by pressure, but the surrounding intestine was in an extremely bad condition and tears began to appear in the peritoneal coat. It was evident that the invagination could not be reduced. The loop of bowel implicated was emptied by pressure and tied off with a piece of rubber tubing. The tumour and surrounding portion of bowel were then resected with scissors. The section did not completely divide the loop of intestine, its continuity being maintained by a narrow strip at the attachment of the mesentery. There was a great difference between the intestine above and the intestine below the seat of resection. Below, the intestine was distended to twice the size of the intestine above; its walls were much thickened and infiltrated; there were extravasations of blood under the serous coat and necrotic patches in the mucous membrane. Above, the intestine was almost normal in appearance, empty, and contracted. It was rather doubtful whether sutures would hold in the wall of the intestine below, but the patient was in such a bad condition that it was impossible to resect more intestine. A small Mayo Robson's bobbin was inserted into the intestine and continuity was restored by two layers of continuous sutures over the bobbin, an inner suture of fine catgut passing through all the coats and an outer suture of fine silk passing Lembert fashion through the serous and muscular coats. The loop of intestine was placed immediately beneath the abdominal incision, the omentum was so arranged as to isolate it from the general peritoneum as far as possible, and a small drainage-tube was passed in through the middle of the wound, which was then closed by three layers of sutures. There was a copious discharge of serum through the drainage-tube during the first 24 hours. The patient passed a restless night, the pulse gradually increasing in frequency; on the following morning he became extremely ill, the pulse rose to 200, and apparently he was dying. One and a half pints of normal saline solution were infused into the right median basilic vein, large doses of liquor strychninæ were given hypodermically, and the lower bowel was washed out. A copious evacuation of extremely offensive bloody fluid resulted and the patient immediately began to improve, the pulse-rate falling within half an hour from 200 to 130. On the following morning the pulse was 120 but the temperature had risen to 103° F. There was some general distension of the abdomen and he complained of considerable pain in the region of the wound, but there was no vomiting. The discharge from the drainage-tube became purulent and rather offensive; evidently there was some peritonitis around the sutured intestine which was no doubt due to infection from the interior of the bowel at the time of operation. The bowels were moved by turpentine enemata and the distension subsided, the discharge from the drainage-tube rapidly lessened, the pulse-rate diminished, and he was able to take light food. At no time was there any discharge of fæcal matter from the wound. On August 9th the wound was entirely healed with the exception of a small granulating area at the site of the drainage-tube, the patient was taking light food very well, and the bowels were acting regularly. At present the child is in excellent health

In the first edition of his work on Intestinal Obstruction Treves mentions a specimen of an invaginated Meckel's diverticulum in the Guy's Hospital Museum which he says is "probably unique." The invaginated diverticulum had given rise to a fatal intussusception. In the second edition of the same work is figured a specimen[2] from the Museum of the Royal College of Surgeons of England consisting of an invaginated Meckel's diverticulum which had led to a fatal intussusception. The Museum of St. Bartholomew's Hospital contains two similar specimens, one from Adams's case[3] and one reported by Willett.[4] In both cases the specimens were obtained post mortem. Boldt[5] at a meeting of the New York Pathological Society showed another similar specimen. Cases have also been reported by O'Conor,[6] Adams,[7] Betham Robinson,[8] Pitts,[9] Eve,[10] Erdmann,[11] Ewald,[12] Weil and Frankel,[13] Hohlbeck,[14] Kuttner,[15] Stubenrauch,[16] Wainwright,[17] and Travers[18]—in all, 13 cases. Of these 13 cases four recovered—O'Conor's, Pitts's, Wainwright's, and Travers's cases. In O'Conor's case a slough of intestine with an inverted diverticulum was passed on the ninth day. In Wainwright's case the intussusception and the invaginated diverticulum were easily reduced, the diverticulum was clamped and cut away, and the opening in the intestine was closed by Lembert sutures. In Pitts's case the intussusception was reduced easily by pressure, and the invaginated diverticulum by the finger introduced through an incision in the bowel. In Travers's case the intussusception was reduced and the invaginated diverticulum was partially reduced, recovery ensuing.

Of the nine fatal cases in two no operation was performed and the condition was discovered post mortem; in two an artificial anus was established; and in five enterectomy was performed, followed by primary enterorrhaphy. It is noticeable that every case in which the invaginated diverticulum could not be reduced terminated fatally, with the exception of the one in which recovery followed the passage of an intestinal slough. Also with one exception—Wainwright's case in which the diverticulum was resected after reduction—enterectomy was uniformly unsuccessful. A. E. Halstead[19] states that invagination of a Meckel's diverticulum may occur with or without an invagination of the ileum. Heller,[20] indeed, found one which hung free in the lumen of the gut without causing any disturbance. Apparently in the majority of cases the invaginated diverticulum leads first to an enteric and then to an ileo-colic

[1] A paper read before the Leeds and West Riding Medico-Chirurgical Society on Dec. 12th, 1902.

[2] Specimen No. 2718a.
[3] Specimen No. 2183a, Transactions of the Pathological Society, 1892, p. 75.
[4] Specimen No. 2183, St. Bartholomew's Hospital Reports, 1891.
[5] Medical Record, April, 1900.
[6] Brit. Med. Jour., vol. ii., 1894.
[7] Ibid.
[8] Ibid., vol. ii., 1899. [9] Ibid., vol. ii., 1901.
[10] Ibid.
[11] Annals of Surgery, February, 1900.
[12] Berliner Klinische Wochenschrift, 1897, No. 8.
[13] Bulletin de la Société d'Anatomie de Paris, 1896.
[14] Archiv für Klinische Chirurgie, Band lxi., 1900.
[15] Beiträge zur Klinischen Chirurgie, Band xxi., 1898.
[16] Centralblatt für Chirurgie, No. 26, 1898.
[17] Annals of Surgery, January, 1902.
[18] THE LANCET, July 19th, 1902, p. 146.
[19] Annals of Surgery, April, 1902.
[20] Quoted by Kuttner, ibid.

intussusception. In Hohlbeck's case the mucous membrane only of the diverticulum was inverted and this had given rise to an enteric intussusception.

The mechanism of the production of the invagination is probably as follows: some irritant body enters the lumen of the diverticulum and gives rise to spasmodic contraction of the muscular walls. In the efforts to expel the irritant material the apex of the diverticulum becomes caught in the grasp of the circular muscle and is drawn into the lumen of the intestine; invagination of the rest of the diverticulum then follows. Once inverted into the intestine the diverticulum acts in the same way as a polypus may do, and gives rise to an intussusception. To permit the occurrence of invagination it is essential that the apex of the diverticulum be free and not attached by ligament or adhesion to the umbilicus, to the mesentery, or to neighbouring coils of intestine. It is evident that any case of intussusception is very gravely complicated by the presence of an invaginated Meckel's diverticulum, the danger consisting in the rapidity with which the invagination becomes irreducible. In some cases reduction has been possible, but in the majority, even when the intussuscepted ileum could be easily reduced, the invaginated diverticulum could not. This difficulty is due partly to the narrowness of the lumen of the diverticulum and partly to the fact that being at the apex of the intussusceptum its walls become rapidly œdematous and infiltrated with blood. It is impossible to diagnose the condition beforehand and one may find in any case of intussusception, even when the operation is performed at an early stage, an irreducible diverticulum which must be excised. When the diverticulum can be reduced it may be left, though in view of possible after-consequences, such as recurrence of the invagination, adhesion and intestinal strangulation, perforation, &c., it would be better to remove it. It is, of course, impossible to leave an irreducible diverticulum projecting into the interior of the intestine; recurrence of the intussusception is almost certain to take place, and in any case it is sufficiently bulky to obstruct the passage of intestinal contents. The diverticulum may be removed by a lozenge-shaped incision in the long axis of the gut which is subsequently closed in the transverse direction, or by cutting out the portion of intestine to which the diverticulum is attached.

It is difficult to say whether after resection of the diverticulum primary enterorrhaphy should be performed or an artificial anus established; both operations have been attended with a frightful mortality in cases of intussusception. The mere difference between suturing the ends of the intestine together and suturing them to the skin cannot in reality have any influence on the mortality; one operation is as easy as the other and can be as rapidly performed. The point to be considered in choosing between the two operations is by which method can the poisonous contents of the intestine be most rapidly and completely removed. If the intestines above the seat of resection are full and distended with decomposing fluid it would appear to be safer to establish an artificial anus. In the case under review the intestines above were collapsed and there had evidently not been complete obstruction; for that reason a primary enterorrhaphy was performed. It became evident during the first 12 hours after the operation that although the small intestines above the intussusception were empty and collapsed the intestine below had been full of decomposing bloody fluid and this gave rise to a profound and almost fatal toxæmia. It is doubtful whether this poisonous material could have been removed by forming an artificial anus at the seat of resection. In a similar case possibly it would be advantageous to drain the cæcum by a small Paul's tube and also to inject a saline aperient into the bowel as recommended by Marmaduke Sheild. It is a wise precaution to adopt drainage of the peritoneum in all cases in which plastic operations are performed on the intestines during an attack of acute obstruction as the virulence of the intestinal bacteria is at such times much enhanced; it is impossible to prevent some fouling of the peritoneum and a more or less severe attack of peritonitis may follow the operation. Somewhat allied to these cases are invaginations of the vermiform appendix which may give rise to a cæcal intussusception. Monsarrat[21] in reporting such a case suggests the use of the term "appendico-cæcal" to describe this variety of intussusception. The term "diverticulo-enteric" would be suitable as a designation of the form of intussusception produced by the invagination of a Meckel's diverticulum.

Leeds.

[21] Brit. Med. Jour., vol. ii., 1900.

NOTES OF A CASE OF EXTIRPATION OF A TUMOUR OF THE PROSTATE FOR RETENTION OF URINE.

BY W. PRIOR PURVIS, B.SC., M.S., M.D. LOND., F.R.C.S. ENG.,

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THE patient was 69 years of age. No definite history of urinary trouble could be got from him except that on July 22nd, 1902, he took a long drive and may have partaken of some stimulant at the end of it. That evening he found difficulty in passing his urine and there seems to be little doubt that he had "retention incontinence" up to August 5th, on which date complete stoppage of the flow took place. He was seen by Mr. R. A. E. Bacon and by my colleague, Dr. H. P. Ward, who succeeded in passing a long bi-coudé catheter and emptied the bladder. After this Mr. Bacon, and later his locum-tenent, emptied it twice a day until the 17th. The catheter then refused to pass and Dr. Ward was called in again and was successful in passing it. At this period the patient was in a very grave condition. Rigors were of daily occurrence and hæmorrhage was free at every attempt at catheterisation. On August 19th the difficulty with the catheter recurred and the patient was removed to a nursing home for operation, where I first saw him in consultation with Dr. Ward at 11 A.M. The patient was a very stout man and his abdomen was greatly distended. He was quite unable to micturate and was suffering great pain. His temperature was 99·8° F., his pulse was 100 and regular but only fairly strong, and his respirations were 22 per minute. The condition of his kidneys could not be ascertained, but his other abdominal organs and his thoracic viscera evinced on examination no signs of disease. I was quite unable to pass any kind of flexible catheter, but with one finger in the rectum I managed to introduce a large silver prostatic catheter and drew off a great quantity of dark brown sickly smelling urine. I could feel that his prostate was very large and hard. Owing to the difficulty of passing any catheter and to the fact that it was evident that severe cystitis would soon come on I decided, after consultation, to drain the bladder by an external opening and then to see whether it was possible to remove the obstructing prostate and, if so, to attempt the operation. I chose the suprapubic route because I felt more at home with it and also because I was unable to exclude the existence of cancer of the prostate.

In the afternoon, then, of the same day, under chloroform and with the assistance of Dr. Ward, the distended bladder being distinctly felt, I made a long incision in the middle line immediately above the symphysis pubis. There was a very thick layer of fat in the abdominal wall, but the bladder was easily entered with but little hæmorrhage. There was an immediate gush of urine and on introducing the right forefinger the upper surface of the prostate could be felt forming a circular elevation like a rampart all round the internal urinary meatus. There was no calculus and there were no sacculi connected with the bladder. I introduced the first two fingers of my left hand into the rectum and so pushed forward and steadied the prostate, while with my right forefinger I first scratched through the mucous membrane on the prostate to the right of the urethral orifice and then worked my way between the tumour and what I may call its surgical capsule. The whole of the upper part separated fairly easily, but there was considerable difficulty below and in front where the prostate abuts on the triangular ligament. This, perhaps, was due in a measure to the density of the tissue connecting the tumour with its capsule at that point, but was more owing, as it seemed to me, to the great size of the structure which I was removing, which prevented me from getting my finger far enough round it. The difficulty was finally overcome by tearing the tumour up into four approximately equal portions, the first two fingers

being used to do this and to extract the fragments from the bladder. In this case the mucous membrane of the prostatic urethra certainly came away. The tissue left between the cavity and the rectum was very thin. There was a good deal of hæmorrhage for a short time after removal of the fingers from the bladder. This was washed out with sterilised water, the ends of the wound were closed with sutures and a large drainage-tube was inserted right down to the bottom of the cavity formerly occupied by the tumour. I was unable to replace the four portions of the growth in their correct relations or to trace the former position of the urethra. The weight was six and a half ounces and the size was that of a large orange.

The operation was over at 4.40 P.M., but the subsequent course of the case was not all plain sailing by any means. Within an hour a severe rigor set in. The temperature at 6 P.M. was 101·4° and at 9 P.M. 103°, the pulse being 133 and the respirations 40. At 10 P.M. it had begun to abate: the temperature had dropped to 101·2°. That night the patient slept for two and a quarter hours and took milk and brandy. On the next day his temperature at 6 A.M. was 99° and at 6 P.M. it was 100·4°. Never after this did it exceed 100°, but the pulse continued to range from 92 to 104 and the respirations from 20 to 28 for many days. On the third and fourth days his condition caused me some anxiety on account of heart weakness, and he was injected with one-sixtieth of a grain of strychnine sulphate every quarter of an hour, but on the fifth day he could eat a baked custard. On the seventh day a number of large blotches of a purpuric eruption came out on the backs of both hands and lasted about a week, gradually fading away. I am at a loss to account for this. On the ninth day the patient stated that he passed a few drops of urine through the penis, but as his bed was always wet it was impossible either to confirm or to deny his statement. Up to this time the wound had been dressed with pads of absorbent gauze and wool, but as the fat had become very sloughy the dressing was changed on the tenth day to boric acid fomentations. On the eleventh day the patient sat up in a chair for a short time. The wound having become encrusted with phosphates I tried the effect of soaking the lint in a solution (1 in 20) of acetic acid for a few days but without good results. On the thirteenth day he was sufficiently well to dine off chicken, custard, and fruit. On the twenty-sixth day he passed altogether 15 ounces of urine naturally and on the twenty-eighth day Mr. Bacon passed a soft rubber catheter to assist him. The leakage from the wound gradually ceased and the urine passed more and more through the penis until, on the fifty-seventh day, a collodion dressing was applied. A few days before this the bladder had been washed out daily through a catheter and this attention was required now and again afterwards until he was finally sent home on the seventy-fourth day. He is now able to walk about and to retain or to pass his urine as he wishes. He says he feels better than he has for years.

Southampton.

A CASE OF ACUTE EPENDYMITIS IN AN INFANT.

BY J. A. COUTTS, M.B. CANTAB., F.R.C.P. LOND.,
PHYSICIAN TO THE EAST LONDON HOSPITAL FOR CHILDREN.

CASES of primary acute ependymitis leading to the formation of pus in the cerebral ventricles are of such exceptional rarity as to merit that each one should be put on record. Apart from the result of the bursting of a cerebral abscess into their cavities, or as a consequence of suppuration in the sac of a spina bifida, the presence of unmistakeable pus in the cerebral ventricles is a rare occurrence under any conditions. Very occasionally pus in the ventricles is found post mortem in cases of purulent meningitis. Far most frequently, however, the turbid fluid found in even the acutest of these last cases affords no naked-eye appearance of pus, whatever evidence of its purulent character may be forthcoming from microscopical or chemical examinations. The interest in the present case lies in the fact that large masses of pus were found in the ventricles post mortem, without any other lesions being discovered in the meninges or cerebral substance.

Ependymitis as a distinct pathological condition is more frequently dealt with by American writers than by those in this country. References to it, both as an acute and chronic condition, may be found in the works of Delafield and Prudden, Osler, Emmett Holt, and others in America and by Sir William Gowers amongst English authorities. As far as I can gather all these writers treat acute ependymitis from a purely pathological standpoint and merely as a condition discoverable post mortem in connexion with disease of other parts of the brain or its membranes. I know of no instance where an attempt has been made by any writer to connect any symptoms observable during life with the ventricular conditions discovered post mortem. As regards the symptoms arising from the chronic form of ependymitis we perhaps stand on a less uncertain basis. More than 20 years ago, in a graduation thesis at Cambridge, I combated the view that chronic hydrocephalus had any causal origin in rickets and ventured the opinion that possibly an explanation of the former complaint would be found in a primary chronic inflammatory condition of the ventricular ependyma. This view is not inconsistent with the conditions discoverable post mortem and, even if far from satisfactorily established, is, I believe, one very commonly held at the present day.

The difficulty in dealing with the acuter forms of ependymitis lies in the fact that almost invariably the ventricular affection is complicated with other gross lesions of the brain or its membranes and it becomes a matter of impossibility to assign to each separate part its due share in the production of symptoms. In my present case, in the later stages at least, the acute ventricular inflammation was probably the sole disorder and it is no unfair assumption that some of the later symptoms observable during life were directly ascribable to it. As these symptoms, however, were in no sense distinctive or characteristic and varied but little from day to day, I have thought it well briefly to summarise them from the excellent and copious notes of my former house physician, Dr. G. A. Finlayson, now bacteriologist at Singapore.

The patient, a female infant, aged three months, was admitted into the East London Hospital for Children under my care on Nov. 19th, 1902. In the family history of the case there was nothing special to note. The father and mother and two remaining children were healthy. Two children were dead; one had died from pneumonia with measles and the other was found dead in bed. There had been no miscarriages. The patient was a breast-fed infant and had been fairly healthy until the onset of the present illness. This occurred two days before her admission to hospital with diarrhœa and vomiting. The stools, three or four daily, were green and not offensive. The vomiting occurred soon after taking the breast. Early in the morning of the day of admission the infant had a convulsive attack, the arms and legs were held rigid for some time, then twitching occurred in the extremities. The attack lasted about 15 minutes and soon after the child was brought to the hospital. Just before the onset of the fit she seemed to have pain in the abdomen with drawing up of her legs and screaming.

On admission the patient was found to be a small, pale, and rather badly nourished infant. The eyes were bright and the pupils were equal and convergent strabismus was strongly marked. The breathing was irregular both in rhythm and in depth. The pulse varied extremely in force and in rhythm, becoming faster when the breathing was quicker and very slow and almost intermittent when a period of apnœa supervened. There was no definite convulsive attack, but the infant was restless and had irregular spasmodic tremors of the hands. The legs were drawn up on the abdomen and were slightly flexed. Kernig's sign was not present. The knee-jerks were very active—they were brisk and were excited by a very slight tap on the tendon. There was slight retraction of the head but no marked rigidity of the post-cervical muscles. The anterior fontanelle was tense and bulging. The sagittal and frontal sutures were widely open. There was nothing calling for special note in the examination of the chest. The skin was elastic. The tongue was furred. The abdomen was soft and distended. The infant could not take the breast and had to be fed nasally. The temperature on admission was 103° F. but it fell to 101° in the course of a few hours.

The symptoms varied but little till the death of the infant on Dec. 29th and can be summarised as follows. The vomiting persisted until the end—three or four times a day—generally soon after being fed. There was also slight obstinate diarrhœa which continued in spite of treatment until a week before death. After a fortnight in hospital the fits recurred and after this there were few days in which there were not

several convulsive attacks. At first these consisted of clonic spasmodic contractions of the left arm and leg and both the mouth and eyes were drawn to the left side. The later attacks were general in character and showed no unilateral tendency. Each fit lasted a considerable time and was ushered in by a shrill scream on the part of the infant. Towards the end they became very frequent. The temperature, which had been 103° on admission, presented from the beginning a marked up-and-down type. At first the maxima attained seldom went much above 101° and on several occasions the temperature dropped temporarily below the normal. Later, when the fits became more numerous, the temperature assumed a higher range and on one or two occasions it went up beyond 104°. The knee-jerks continued exceedingly brisk and a slight tap on the patella tendon would throw the limb into a state of clonic spasm with as many as from 10 to 20 contractions. The head retraction became more marked and the post-cervical muscles more rigid, and towards the end there was considerable opisthotonos. The anterior fontanelle continued very tense and bulging. The day before death an attempt was made to relieve the cerebral tension by drawing off fluid from the ventricles by way of the anterior fontanelle, but this failed owing doubtlessly to the eye of the needle getting blocked by one of the masses of lymph or pus. For the first three weeks the infant remained fairly plump, but before death emaciation became extreme. The total duration of the illness was exactly six weeks.

The following are the notes of the post-mortem examination 18 hours after death, made by Dr. Leonard S. Dudgeon, the pathologist to the hospital:—

The child was very emaciated. No skin lesions were to be seen or felt. No spina bifida was detected. The pharynx, trachea, lungs, pleura, mediastinal glands, heart, pericardium, and the thymus gland were all found to be healthy to the naked eye. The pulmonary artery was opened *in situ*, but there was no evidence of any ante-mortem clot. The abdominal cavity and its contents, the liver, spleen, kidney, suprarenals, pancreas, stomach, intestines, and glands were all found to be normal. Head.—All the cranial sinuses were normal. There were no abnormal changes in any of the bones of the skull. No middle ear or mastoid disease was noted. Cerebral membranes.—Nothing abnormal was seen to suggest any past or present meningitis. There was extreme flattening of the convolutions. No hæmorrhage or any new growths were seen in any part of the brain substance. There was extreme bulging at the base of the brain in the region of the optic commissure. As soon as the third ventricle was opened a large quantity of thick turbid fluid poured out and also large flakes of lymph and pus. All the ventricles were extremely dilated and contained similar fluid and pus. At the level of the foramen of Magendie there appeared to be complete blocking. There was no dilatation of the central canal of the spinal cord to the naked eye. There was no inflammation of the spinal membranes in the cervical region—in fact, the cord and membranes appeared to be quite normal in this region. An examination of the spinal cord in the dorsal and lumbar region could not be made, but no fluid could be drawn off from the lumbar region of the cord. The fluid from the ventricle was not offensive. The pus was very thick, whitish-green, and very fibrinous. The dilatation of the lateral ventricles was so extreme that the brain tissue only formed a very thin outer wall to the cavities of the ventricles which were extremely dilated in their whole course. There was an extremely thick inflammatory deposit attached to the ependyma of the ventricles which could be scraped off, leaving a rough surface beneath with great dilatation of the veins coursing along the walls of the ventricles. Also a few scattered pinhead hæmorrhages were seen in the walls of the lateral ventricles. Bacteriological examination of the pus from the ventricular cavities.—Cover-slip preparations of the pus showed large numbers of cocci arranged without exception in the form of long chains. Cultures were made on most of the ordinary media. In every case small colonies grew similar in every respect to those of members of the streptococci family. Cover-slip preparations of the pus were made from the growths on the various media and in every specimen examined cocci in the form of very long chains were the characteristic feature. The coccus stained by Gram's method. There was no capsule to be seen to the cocci from the original specimen of the pus. No inoculation experiments were made with the organism. There was no cause discovered for the ventricular infection.

Needless to say the conditions discovered in the ventricles were totally unsuspected before the necropsy. The close similarity of the symptoms to those of meningitis is sufficiently obvious, and during life the case was naturally taken to be one of the post-basic variety of that complaint. That the diagnosis was wrong, as least as regards the variety of any meningitis that may have been temporarily present, is proved by the bacteriological examination, for the organism found was assuredly not the one so commonly associated with the name of Dr. G. F. Still. Whether the streptococcus discovered was a variety of the pneumococcus Dr. Dudgeon prefers to leave unsettled from the data at his disposal. Under this supposition as to the nature of the micro-organism it is, of course, possible that an early pneumococcal meningitis, leading to blocking of the basal foramina, may have at one time existed and cleared up before death. For such an assumption, however, there was absolutely no evidence forthcoming at the post-mortem examination. A more natural and more justifiable conclusion in the circumstances is that, rare as the condition may be, the present case was really one of a primary acute inflammation of the ventricular ependyma. Such an inflammation and its results would be thoroughly compatible with the effects discovered post mortem, and possibly with the symptoms observable during life. As has been said, these symptoms were in the main those of a post-basal meningitis. On the severity and time of appearance of one or two of the symptoms some stress may, perhaps, be laid as lending aid in distinguishing between the two conditions. In the present case the onset was more acute and the fits were much more frequent and persistent than in an ordinary case of post-basic meningitis. The temperature, too, towards the end of the third week began to rise, whilst in most cases of post-basic meningitis it would by that time have reached the normal or fallen below it. One other point seems worthy of some special notice. In a sick infant aged three months only the degree of consciousness present is hard to estimate. The fact, however, that from the moment of her admission to the hospital the infant had lost the power of sucking and had to be fed nasally is strong presumptive evidence that the amount of consciousness appropriate to the age of the child was already in entire abeyance. So early a loss of consciousness, in less than two days from the onset of the illness, is a rare occurrence in any form of meningitis. On the failure to elicit Kernig's sign I would personally place but little weight. The inability to draw off fluid from the ventricle, where one was fairly certain the point of the needle was within that cavity, ought, perhaps, to have led to the conclusion that the case was not an ordinary one of post-basic meningitis, but deductions drawn from such a procedure hardly enter into the domains of practical diagnosis.

The main features of acute ependymitis in infants, as far as one is justified in attempting to settle them from a single case, would seem to be acute onset with vomiting, a persistent temperature of the hectic type rising towards the end of the illness, very early loss of consciousness, very frequent fits dating almost from the onset, and early and persistent bulging of the anterior fontanelle, along with convergent strabismus. I much fear, however, that at the present time the differential diagnosis between such cases and those of meningitis is practically impossible, especially when it is remembered how widely cases of the last disorder vary as regards the prominence and times of appearance of their numerous symptoms.

In conclusion, I have to acknowledge my indebtedness to Dr. Dudgeon, not only for the care which he bestowed on the post-mortem and bacteriological examinations, but for several references to the literature of acute ependymitis that I should otherwise have missed.

Upper Berkeley-street, W.

A CASE OF DROPSY, THE RESULT OF INFLAMMATION OF THE KIDNEYS, TREATED BY LAPAROTOMY.

BY HENRY PAUL PLANER, M.D.

IN the following article I wish to draw the attention of my fellow physicians to a case of dropsy resulting from inflammation of the kidneys, completely relieved by laparotomy and the treatment following the operation—a case of so much interest that it seems to me to be worthy of publication.

On March 12th, 1902, the patient, aged 31½ years, was admitted to my private hospital after having been unsuccessfully tapped at another hospital, from which she was dismissed as incurable on March 7th, 1902, with the prognosis of her speedy decease. Her condition on admission was as follows. She was very anæmic and had almost a bilious complexion; the lungs were healthy, the heart was not enlarged, and the heart-beats were clear. The liver reached far beyond the right arch of the ribs and was very much enlarged. The spleen was three fingers' breadth beyond the usual limit and painful to touch. The kidneys, according to external percussion and palpation, were enlarged and sensitive to touch. The uterus was somewhat small and moderately retroverted. Menstruation

was said not to have appeared for five months. The urine was very albuminous; it was free from sugar. The body was enormously swollen and in a state of advanced ascites. As I was convinced that the patient was suffering from dropsy arising from inflammation of the kidneys, accompanied with rather severe albuminuria, I decided to let off the fluid by means of laparotomy. Under the influence of chloroform at first and later of ether I made a long incision in the abdomen, introducing at the same time into the two breasts, by means of two capillary tubes, a solution of tepid salt water with a small quantity of sodium bicarbonate. During the whole operation the anæsthesia was not interrupted in any way, nor was the action of the heart enfeebled, which was mainly owing to the introduction of the salt water into the system. After opening the abdomen and letting an immense quantity of water rush out I found the liver, spleen, and kidneys very swollen and in a state of extreme hyperæmic inflammation; the suprarenal capsules, uterus, and ovaries were in a natural state; the parametrium and perimetrium, as well as the general peritoneum, were free from any inflammatory matter. After having removed from each side of the incision wound (which was 18 centimetres long) a strip (15 centimetres broad and 40 centimetres long) of the very much expanded peritoneum I united the remaining edges of the peritoneum with a row of catgut stitches to which I joined the muscles and fasciæ and then closed the abdomen with 12 silk stitches. On the fourth day after the operation and every following day until the forty-second the patient received on an empty stomach a pill containing gamboge, while the diet was light and free from fat and albumin. This removed the congestion of the liver, spleen, and kidneys, and it became evident that the patient's bilious complexion was giving place to a fresher colour. The motions of the bowels were also regular and spontaneous after medication ceased, whereas they had before been very constipated. The secretion of urine, which had been very scanty and albuminous before the operation, was now plentiful and showed no trace of albumin. On the fifteenth day after the operation the external silk threads could be removed and a week later, on April 2nd, the patient was able to leave the hospital completely cured and without a trace of ascites in her body. For over nine months she has enjoyed perfect health and needs no further medical treatment. At the last examination of the patient, which took place two months ago, I found the abdomen soft, the liver non-resistant, the spleen in a normal condition, the wound well healed (without hernia of the bowels), the urine free from albumin, the motions daily and spontaneous, and the general health good. The patient informed me that she had accomplished a walk of about ten English miles in three hours when carrying a heavy weight without any inconvenience whatever. I must not omit to mention that six weeks after the operation menstruation caused severe pain, in consequence of which I undertook a slight dilatation of the cervix uteri and after this it came on regularly and painlessly.

From the success of the preceding case I arrived at the conclusion that by the operation of laparotomy the disordered abdominal organs had been greatly relieved, that the patient's life was saved, and the permanent relief from ascites of the *soi-disant* incurable patient was due entirely to the operation of laparotomy, whereas the tapping of the abdomen practised previously by other hands was altogether without effect. It would be interesting to learn whether the same experience has been met with in similar cases in other hospitals. This example tends to show at all events that laparotomy is to be preferred to tapping or puncture in cases of severe ascites.

Dresden.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. G. Gardner Oakley, M.R.C.S. Eng., L.R.C.P. Lond., of Halifax, has recently been the recipient of a case of pipes from the members of a men's ambulance class whom he has instructed in first aid.—Mr. John Twiname Gardner, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., the chairman of the Ilfracombe band committee, was presented on April 1st, at the last fortnightly concert which he had arranged during the winter months, with a silver cigarette, match, and sovereign combination case and an illuminated address containing the names of 130 subscribers and recording the appreciation of his efforts in providing during the past winter high-class concerts which had been greatly enjoyed by the residents and the visitors.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF NASAL CALCULUS WEIGHING 48 GRAINS.

BY A. J. HELM MONTAGUE, M.D. DURH., L.R.C.P. LOND., M.R.C.S. ENG.,
SURGEON TO THE WORKSOP VICTORIA HOSPITAL;
AND
RICHARD LAKE, F.R.C.S. ENG.,
SURGEON, ROYAL EAR HOSPITAL.

A MARRIED woman, aged 36 years, was seen by Mr. R. Lake, in conjunction with Dr. A. J. H. Montague, on August 4th, 1902. She complained of an offensive discharge from the left nostril, a disagreeable taste in the mouth, and inability to breathe through the nose. The above symptoms had existed for five years. On examination a large calculus was found firmly imbedded in the left nasal cavity. Mr. Lake removed it with forceps, under cocaine, with much difficulty. The calculus weighed 48 grains. The outer crust consisted of earthy carbonates and phosphates and the nucleus consisted of a cherry-stone which when crushed revealed the kernel intact. The patient was given an antiseptic nasal douche and on August 23rd all symptoms had disappeared and she was able to breathe normally through the nose.

Remarks by Dr. MONTAGUE.—The points of interest in the case appear to be, firstly, the size of the calculus; and secondly, the fact that the patient had no symptoms until five years ago and that she had no idea how the cherry-stone got up her nose. On careful inquiry it was elicited from the patient that she distinctly remembered, when a small child, living in a house in the country to which was attached an orchard containing several cherry trees. Doubtless one of her playmates, or she herself, pushed the stone up her nostril, the stone remaining quiescent for many years.

NOTE ON A CASE OF MACROPODIA.

BY DR. R. KUTSCHERSKY.
(*Translated for* THE LANCET.)

THE patient in this case is a beggar-woman who is 60 years of age and has an abnormal development of the right foot. Not much information as to her past history can be obtained from her; she says that she was born with her foot in this condition, that it grew with her growth, and that there never have been any instances of malformation in her family. Her body is in other respects well developed; her muscles are of average strength; the subcutaneous fat is scanty. Her height is 163½ centimetres (5 feet 5 inches); on several parts of her body there are small cutaneous ulcers of unknown origin and not attended with pain; in other respects her body presents nothing abnormal. The right foot is considerably larger than the left one and makes with the leg a much greater angle than the left foot does; its anterior half is strongly curved, so that the toes do not touch the ground but point upwards. The conformation of the toes at once attracts attention, especially that of the great toe and the second and third toes; they are enormously large and thick, strongly curved upwards, and extremely divergent from one another. These three toes are ankylosed in all their joints, so that they are not capable of either active or passive motion, although no thickening whatever is to be found in their joints. The great toe and the second toe are simply extended upwards in a marked degree, whilst the third toe is dislocated upwards and backwards; the two other toes (the fourth and fifth) are hardly noticeable where they project from under the third one and by contrast they seem to be smaller than normal. The toe-nails are proportionately enlarged without any anomalous feature. The following measurements were taken: the length from the heel to the extremity of the second toe is 30 centimetres (11·8 inches) in the right foot and 24 centimetres in the left one.

The circumference of the right foot at the root of the toes is 34 centimetres, while that of the left one is 25 centimetres. The circumference of the right great toe at its root is 13½ centimetres, that of the left one being eight and a half centimetres. The distance between the great toe and the second toe of the right foot is 16 centimetres at their extremities and three centimetres at their roots. The woman has no paresis or disorder of sensibility or other anomalous condition of the nervous system; neither has she any functional disorder of the internal organs.

Elisabethgrad, Russia.

GUNSHOT INJURY TO THE LEG FOLLOWED BY ALBUMOSURIA.

BY C. E. CAMPBELL-HORSFALL, M.B., CH.B. VICT.,
LATE HOUSE PHYSICIAN TO THE LEEDS GENERAL INFIRMARY AND HOUSE SURGEON TO THE CHILDREN'S HOSPITAL, LEEDS.

THE patient, a working man, was accidentally shot in the leg below the knee, the injury being so severe as to necessitate immediate amputation. He had lost a considerable quantity of blood previously to his admission to the Clevedon Cottage Hospital and was profoundly collapsed after the operation. He rallied, however, and made an uneventful recovery. The urine was not examined on admission. Two days later it was found to contain a large quantity of albumose. On boiling the urine, previously acidified, a copious precipitate was thrown down which entirely disappeared on further heating, reappearing on cooling again. On applying Heller's test a dense white cloud formed some distance above the line of contact of the two fluids. This cloud entirely dissolved on heating but it reappeared on cooling. This condition lasted several days, the albumose growing less each day until it entirely disappeared, and it has not since returned.

The clinical significance of albumose in the urine is at present imperfectly understood. It occurs in many conditions and is found most frequently where destructive tissue changes are taking place under the influence of micro-organisms—e.g., infective diseases, pus formation, &c. It is also found in cases of Bright's disease, pregnancy, and insanity. It occurs abundantly in the condition known as myelopathic albumosuria, sometimes appearing in the urine as a thick white deposit. In this condition it is dependent on sarcomatous degeneration of the bone marrow and is, of course, of fatal significance.

Clevedon, Somerset.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. v., Proœmium.

GREAT NORTHERN CENTRAL HOSPITAL.

A CASE OF SUPPURATING HYDATID CYST OF THE LIVER WITH GALL-STONES IN THE GALL-BLADDER, THE SYMPTOMS SIMULATING THOSE OF BILIARY COLIC.

(Under the care of Dr. H. W. SYERS.)

THE patient, a married woman 37 years of age, was admitted into the Great Northern Central Hospital on August 20th, 1902, under the care of Dr. H. W. Syers. With the exception of the occasional passage of tapeworm during the last 12 years (no such passage having occurred during the last two and a half years) the patient stated that she had always been in good health until early in the year. Then, without apparent cause, she first complained of pain after food and epigastric tenderness. For these symptoms she sought relief at a hospital, being admitted and remaining as an in-patient for 14 days, the illness being regarded, according to the patient's statement, as gastric ulcer. There was no jaundice at this period. She afterwards attended as an out-patient at the same hospital during the next four months. The diagnosis which was made appears to have been "gastritis" and she was treated with aperients and bitters with alkalies. A month before admission to the Great Northern Central Hospital she began to suffer with severe attacks of abdominal pain accompanied with occasional vomiting. A fortnight before admission jaundice was first noticed and affected the whole body. There was severe pain in the right hypochondriac region and there was an account of a swelling in this region which came and went, being also very painful. It seems that the pain was always severe during the time that the swelling was in process of evolution and during its continuance, but that the latter was of short duration and that with the disappearance of the swelling the pain vanished. The family history was not material. The patient had borne two children, one of whom had died five years before from "fits" at two years of age, while the other was living and healthy.

On admission the patient was found to be thin and delicate in appearance. She lay in bed on her back and was breathing rather rapidly. There was distinct jaundice affecting both skin and conjunctiva. The lungs and heart were healthy. The abdomen was somewhat tense and there was marked tenderness on pressure below the right costal margin. The tenderness was particularly evident over the junction of the tenth costal cartilage. In the right hypochondrium just below the costal arch a mass could be felt which appeared to be the distended gall-bladder, but no definite increase of size on the part of the liver itself could be made out. The urine was bile-stained but there was no albumin. On the next day the tenderness in the hepatic region was less marked; the jaundice, too, was not so evident and there was some bile in the evacuations. The temperature, which had been 101·8° F. on and after admission, remained more or less elevated until the 26th, when it fell to the normal. The jaundice had now greatly lessened and there was practically no pain in the hepatic region. On the next day, however, the condition of the patient was as bad as ever. The temperature rose and on the 27th it was 102·4°. On this day a very definite swelling appeared in the region of the gall-bladder; this swelling was extremely tender and painful, but the next morning it disappeared, leaving the patient much more comfortable. With the disappearance of the swelling the temperature again fell to the normal and remained normal until the 29th. During these two days the condition again greatly improved, the jaundice becoming much less marked and the pain in the right hypochondrium disappearing. On the morning of the 29th a relapse occurred. The patient had slept well the previous night and was fairly comfortable all the morning. At 1 P.M. she was suddenly seized with severe pain in the hepatic region which continued all the afternoon. There was some nausea but no actual sickness. At 3.30 P.M. she stated that she felt the 'lump coming." At 6 P.M. a definite rounded elastic swelling of the size of an orange was felt beneath the abdominal wall about three fingers' breadth below the costal margin; it was acutely tender on pressure. On the next morning the lump had entirely disappeared, the temperature had fallen to the normal, and the patient was very comfortable. On this day Mr. E. C. Stabb saw the case with Dr. Syers and it was decided to operate.

The operation was performed on the next day (Sept. 1st). A vertical incision was made just below the ninth rib in the right semilunar line and the abdominal cavity was opened. The gall-bladder, of natural size, was found just beneath the wound; in it were found three gall-stones which were loose and easily moveable in the bladder. The three gall-stones were so faceted as to form together a sausage-shaped mass about one and a half inches long by half an inch in diameter. These were the only gall-stones that were felt and nothing else which was likely to obstruct the passage of bile could be detected. The head of the pancreas could be felt and was apparently normal. A chain of enlarged glands extended along the course of the common bile-duct. The liver was apparently normal in size; the lower margin was sharply defined and on a level with the costal margin. No soft spot or bulging could anywhere be detected. In the region of the gall-bladder the anterior surface of the liver was firmly adherent to the overlying costal cartilages by much firm fibrous tissue, evidently of old standing and inflammatory in origin. The under surface of the liver appeared to be absolutely normal.

A small incision was made through the fundus of the gall-bladder and the stones were removed. The wound was closed by means of a few stitches in the mucous membrane and a double row of Lembert's sutures externally. The abdominal incision was then closed with fishing-gut and superficial horse-hair sutures. On the next day the temperature was normal and the patient on the whole was fairly comfortable. There was slight pain in the right hypochondrium and she vomited, but not severely, once or twice. The bowels were opened by means of enemata and the vomiting did not recur. The condition continued fairly satisfactory; the sutures were removed at the end of a week, the wound having completely healed by first intention. On the 8th the temperature had again risen slightly; there was now marked tenderness over the epigastrium and the vomiting recommenced, the temperature rising to 102°. She remained in much the same condition until the 18th, when a distinct change for the worse took place. Marked and general jaundice now appeared and vomiting again became troublesome. The temperature was still 102° and severe pain in the left lateral region of the chest was complained of. On physical examination there was found to be acute dry pleurisy in this locality. There were also much pain and tenderness in the right hypochondrium and in the epigastrium. No improvement occurred during the next few days. Pleural friction sounds were clearly audible over the left lateral region and great pain was complained of in this locality. On the 16th it became obvious that the patient was suffering from acute peritonitis; the jaundice persisted, the temperature remained high, and the vomiting was uncontrollable. She died on the 18th, all the symptoms of acute general peritonitis being well marked and deep jaundice being present at the time of death.

Necropsy.—The post-mortem examination was made the day after death. The body was universally and somewhat deeply jaundiced and was also greatly emaciated. On opening the abdominal cavity acute purulent peritonitis was found to be present; the intestines were greatly distended with gas and were covered with recent lymph at numerous points at which they came into contact with one another. The peritonitis was most intense in the upper half of the abdominal cavity and especially in the right hypochondrium. It was found that an abscess had burst through the lower surface of the liver in the neighbourhood of the transverse fissure and that the extravasation of its contents had set up an acute purulent peritonitis. On removal of the liver the whole central portion of the organ proved to be the seat of an enormous hydatid cyst, the contents of which had suppurated. The cyst lay beneath the dome-shaped surface of the liver and was separated from the diaphragm, to which the liver was strongly adherent, by not more than an inch thickness of healthy hepatic tissue. The cyst was fully six inches in diameter and was situated quite two inches from the front of the liver. It contained large numbers of daughter cysts. In the course of the extension of the hydatid cyst an opening had resulted into the common bile-duct, through which the contents of the cyst could escape into the duodenum.

Remarks by Dr. SYERS.—The diagnosis in this case was by no means easy or straightforward. The severe paroxysmal pain from which the patient suffered taken in connexion with the attacks of jaundice which certainly seemed to be more or less consecutive to the paroxysms of pain, together with the periodical swelling which occurred in the neighbourhood of the gall-bladder, led to the suspicion that the case was one of gall-stone colic, and as at the operation gall-stones were actually found it seemed that the case was clearly explained and no further interference was deemed necessary. Indeed, the condition of the patient previously to the operation was very far from satisfactory and it would not have been advisable in any circumstances to have prolonged the operation. It may be safely assumed that the periodical swelling which occurred below the right costal margin was due to distension of the gall-bladder. As regards the persistent jaundice, it may remain an open question as to whether this was the result of impaction of gall-stones or whether it may not have been due to a blocking of the bile-ducts by the inspissated contents of the hydatid cyst. For some days after the operation the state of the patient was so satisfactory as to render it probable that the removal of the gall-stones had effected a cure, but the appearance of severe symptoms at a later stage rendered it obvious that some deeper-seated lesion was present. The rapid increase in the severity of these symptoms precluded the possibility of further operative interference and it is certainly a question whether in any circumstances an abscess situated in the very centre of the liver could have been successfully treated by incision and drainage from behind. The risk of injury to the base of the right lung would have been very great and the discharge of the contents of the suppurating hydatid cyst into the right pleural cavity would also very probably have occurred. The cases in which the abscess points externally and presents from the upper or under surface of the liver are totally different and are far more easily diagnosed and surgically treated.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Action on Bacteria of Electrical Currents (or Discharges) of High Potential and Rapid Frequency.—A Further Note on a Case of Multiple Granulomata caused by a Higher Mould Fungus.—A Case of Streptothrix Infection.—The Influence of Salts on the Action of Immune Hæmolysins.—Note on the Serum Reaction of Tubercle

A MEETING of this society was held on April 21st, Dr. E. E. KLEIN, F.R.S., the Vice-President, being in the chair.

Mr. ALEXANDER G. R. FOULERTON and Dr. A. M. KELLAS communicated a paper on the Action on Bacteria of Electrical Discharges of High Potential and Rapid Frequency, in continuance of a communication on the same subject which they made at a laboratory meeting of the society last year. In the former communication they had given the results of their earlier experiments, which showed that by discharging the current close to the surface of a fluid containing bacteria, held in a test-tube through the bottom of which a platinum wire had been sealed, it was possible to destroy the organisms suspended in the emulsion. The organisms tested in this way were bacillus typhosus, bacillus coli communis, bacillus dysenteriæ (Flexner), bacillus anthracis (sporing and non-sporing cultures), bacillus pyocyaneus, bacillus prodigiosus, staphylococcus pyogenes aureus, and streptococcus pyogenes. The emulsions were made either by mixing bacterial growth from a solid medium with distilled water or by adding a small quantity of a broth culture to normal saline solution. The current used was one of from 2·5 to 5 ampères, the voltage varied from 35 down to 24, and the experiments were carried out in an atmosphere of common air. Sterilisation of the bacterial emulsion occurred after exposure to the discharges of from 10 to 20 minutes' duration, varying apparently with the intensity of the current employed. Further experiments had now been carried out to determine the precise cause of the sterilisation, and it was found that if the experiments were carried out in an atmosphere of hydrogen instead of in one of common air the bacteria would survive an exposure to the discharges of at least one and a half hours, beyond which time their experiments had not at present extended. It had also been found that the bacteria remained unaffected when the discharge was sprayed in an atmosphere of hydrogen over the surface of a growth in a sloped agar tube, through the bottom of which a platinum wire was sealed as before. Further, it was found that when such currents were discharged over the surface of water in an atmosphere of common air under the condition of the previous experiments there was a rapid development of acidity in the fluid, due to the formation of nitrous and nitric acids from nitrogen peroxide formed by the discharge of the current in the air. The nitrous acid was, under the conditions of the experiments, rapidly changed to nitric acid; and it was to the latter that the germicidal action must be mainly attributed. Nitrogen peroxide being formed in the air as the result of the electrical discharge, the latter when it took place at the surface of the fluid seemed to favour the solution of the gas, to carry it down into the fluid as it were; and it was possible that with the discharge of such currents over the skin a somewhat similar penetration of the chemical products might occur. In any case it seemed probable that the discharged current had very little direct action on bacteria with exposures of moderate duration, and the useful effect of the discharge of current in certain conditions when ulceration was present must be taken as being due, at any rate partly,

to the germicidal action of chemical decomposition products formed in the air. And it was possible that in morbid conditions, not apparently caused by parasitic infection, the favourable results sometimes observed might be in part due to the action of nascent and active nitrogen compounds penetrating the tissues in minute quantities. And, as already stated, it was not unlikely that the electrical discharge on the surface might favour the penetration of the skin by such bodies. Experiments in which the currents were sprayed over the bacteria in an atmosphere of carbonic acid had also been carried out, but the results were somewhat contradictory and further experiments were necessary.—Dr. KLEIN pointed out that although Mr. Foulerton and Dr. Kellas came to the conclusion that the bactericidal power of the electrical discharges was due to chemical change and not to the direct effect of the current, yet they had not explained why certain organisms which had a considerable resisting power to chemical disinfectants were killed as readily as those with a lesser resisting power.—Mr. FOULERTON, in reply, said that tubes containing various organisms had been exposed to the electrical discharges for periods of five, ten, 15, or 20 minutes. One growth might be killed by exposure for just over 15 minutes, while another growth might not be killed till nearly 20 minutes' exposure; in the present series of investigations no account had been taken of these differences and therefore he thought that the inconsistencies referred to by Dr. Klein were more apparent than real.

Dr. W. S. LAZARUS-BARLOW referred to a case of Multiple Granulomata which he had described at the meeting of the society on Jan. 20th of the present year and said that further events had shown that the fungus which he had suggested might be the cause of the disease was not so in reality. He had suggested that the cause of the multiple granulomatous tumours was a hyphomycetous mould which he had obtained in pure culture. Since then the man had returned to hospital with fresh abscesses from which had been isolated a streptothrix identical with one isolated by Mr. Foulerton in a somewhat similar case. It was this latter which must undoubtedly be looked upon as the cause of the condition particularly as it corresponded with masses of the organism that were actually present in the tissues.

Dr. W. D'ESTE EMERY showed Specimens and Cultures from a case of Streptothrix Infection under the care of Mr. A. B. Barrow in King's College Hospital. The patient was a woman who resided in the country. The infection apparently occurred through a carious tooth which was removed. This led to no relief and after a time numerous sinuses formed in the skin in the region of the lower jaw, face, temporal region, and upper portion of the chest; the tissues in this region were hard and infiltrated and the skin was reddened. The pus contained typical nodules of streptothrix. Little improvement took place when the patient was treated with large doses of iodide of potassium, but when this was supplemented by incisions and scraping of the sinuses rapid amelioration occurred. Cultures were obtained and the organism was found to grow on all ordinary media at blood heat in the form of small, discrete, opaque, white colonies. They grew best on potato. The growth on blood serum resembled small pearls and the medium was not liquefied. The organism grew both in the presence and absence of oxygen and apparently slightly better in its absence. In anaerobic cultures typical "chain sporulation" occurred and the mycelium often showed terminal clubs, sometimes of very large size. In aerobic cultures the organism occurred almost entirely in the form of straight bacilli, mycelia being very scanty or entirely absent. Dr. Emery considered that these bacilli multiplied by simple transverse fission without the intervention of a mycelial stage.—Mr. FOULERTON said that when dealing with a quickly growing organism it was easy to trace the various steps of development, whereas when the organism was slow-growing the various stages merged into one another.

Dr. W. BULLOCH described experiments on the Influence of Salts on the Action of Immune Hæmolysins. He showed by a new method of preparing the stromata of the red blood corpuscles that the formation of hæmolysins was referable to the nucleo-proteid, as stromata which have been extracted with ether were incapable of developing hæmolytic sera. Certain salts, such as sulphate, bromide and chloride of magnesium, zinc sulphate, and ammonium sulphate, were capable of completely inhibiting the hæmolytic effect of potent immune sera. By analytical experiments with special reference to magnesium sulphate it was shown that this was due to the salt preventing the junction of the complement with the immune body and not due to the destruction of either of the components of the hæmolysin.

Dr. A. E. WRIGHT described the technique for preparing the fluid to be used in the Serum Reaction of Tubercle. He said that to prepare the fluid tubercle bacilli were ground up in an agate mortar with salt. This was then mixed with water and the mixture centrifuged, when an opalescent fluid remained. When this was brought into contact with a specific serum a sedimentative reaction set in. He next dealt with the forces which caused the sedimentation and suggested that the force was an electric one and acted on the particles, causing them to form into definite groups. The blood serum of tuberculous patients tested in this manner showed no more reaction than the normal blood and Dr. Wright did not consider that the reaction could be of diagnostic value. After tuberculin inoculation a reaction was produced, and by repeated inoculation a cumulative effect was obtained which could be estimated by means of this sedimentation test.

SOCIETY OF ANÆSTHETISTS.

Discussion on Somnoform.—Election of Officers.

A MEETING of this society was held on April 3rd, Mr. WALTER TYRRELL, the President, being in the chair.

Mr. W. FOSTER CROSS read a paper on Somnoform. He said: I have been asked to occupy your time for a few minutes this evening in opening the discussion. I shall not make a great demand on your patience. This anæsthetic on which I wish to speak was first introduced to the public just about a year ago under the name of "somnoform." In May of last year Dr. Rolland and Mr. F. Field Robinson communicated a paper to the British Dental Congress at Shrewsbury upon a new mixture which they had been using as a general anæsthetic. This mixture was composed of the following ingredients: ethyl chloride, 60 parts; methyl chloride, 35 parts; and ethyl bromide, five parts. The following points were claimed in its favour: (1) that all bulky apparatus was dispensed with, all that was necessary being a flask containing the mixture about six inches in depth and holding about 50 cubic centimetres and a face-piece in the form of a cone upon which to administer it; (2) its rapidity in effecting anæsthesia; (3) its rapid elimination; (4) the absence of any untoward effects both during and after administration; and (5) its absolute safety. What struck me most when reading their paper was the statement that anæsthesia could be obtained in 20 seconds and with absolute safety, that no after-effects such as vomiting occurred, and, further, that not only had they used it in minor surgical operations, but in such major operations as removal of the kidney, &c. Now it seemed to me that if these claims were well founded it would be an ideal anæsthetic in busy hospital practice, so I determined to try it and naturally began with some trivial operations, such as extraction of teeth. From these I proceeded to those of greater duration. Now before giving my experience, which I must say is very limited, as I have used somnoform in only about 160 cases, a large proportion of which were those of extraction of teeth, let me first say a word or two upon the method of administration as described by Dr. Rolland. He says that about five cubic centimetres are to be sprayed upon the inner surface of the mask, which is then to be rapidly applied to the face of the patient so as to exclude all air; the patient is then told to breathe. Anæsthesia will then, it is said, be obtained in about 20 seconds, when the eyes become fixed and the arm raised will remain in a cataleptic state or drop owing to muscular relaxation. In administering this anæsthetic I adhered as closely as possible to the rules laid down by Dr. Rolland. I will now pass on to say a few words on the symptoms which I observed. The evident feeling of suffocation and the consequent gasping for breath were much more marked than in any other anæsthetic. This is no doubt due to the almost complete exclusion of air and although this symptom lasts for only a few seconds it is a distressing and disconcerting one and the consequence is that there is a great tendency on the part of the patient to pull away the mask, a tendency which, of course, has to be restrained. So much so did I find this to be the case that I took to administering it through an ordinary celluloid face-piece with the hole at the top lightly plugged with lint. By this means the

struggling was lessened and swallowing movements which otherwise took place did not occur. As regards the time occupied in rendering patients insensible, I found that it varied as to whether air was excluded or not. In the former case, notwithstanding the attempted resistance on the part of the patient, anæsthesia was frequently induced in as little as 20 seconds, the time mentioned by Dr. Rolland. In the latter case about 50 seconds elapsed before anæsthesia was complete, but if free admixture of air was allowed it was difficult to effect true anæsthesia at all and only a condition of analgesia was obtained. Now at first sight I confess that it appeared somewhat difficult to say at what moment the patient was ready for operation, but after administration in a few cases and more or less determining how much air to admit I found that the patient soon settled down and presented the following phenomena. The face in all cases at first became flushed and cyanosis was never observed, except in two instances which I shall presently mention. The breathing, which at first was irregular, within a very few seconds became steady, slow, deep, and regular, much the same as occurs in chloroform anæsthesia. The eyes were suffused and had a fixed stare; the pupils which at first were widely dilated within, as a rule, less than a minute became contracted and remained so throughout the administration, with also loss of conjunctival and corneal reflexes. The pulse always became rapid at first but soon settled down and became regular, although somewhat increased in frequency throughout the operation. As regards muscular relaxation, in some cases it was perfect, whereas in others this was not so. As an instance of the latter I may mention the case of a boy to whom I administered somnoform for 15 minutes for amputation of the finger and although apparently anæsthetised he was yet constantly moving his fingers on the hand operated on, though there was no movement elsewhere. These movements still occurred even when the administration of somnoform was increased. Afterwards he told me that he felt as if someone was gnawing at his finger, although the imaginary gnawing gave him no pain. Hence it seems to me that somnoform cannot be relied upon as a satisfactory anæsthetic where complete muscular relaxation is imperative. I am bound, however, to say that the absence of complete relaxation may possibly have been due to faulty administration, but I must add that this is far from being the only case in which similar symptoms were observed. On the other hand, I have given somnoform for operations on particularly sensitive organs with no such symptoms occurring. Now Dr. Rolland claims that anæsthesia may be obtained for as long as five minutes from a single administration. I cannot say that from a single administration I have ever obtained an anæsthesia with a duration of more than 80 seconds, although this is as long again as that obtained from nitrous oxide. But as regards dental practice I do think that it possesses these advantages over nitrous oxide: that not only is the anæsthesia as a rule longer but there is absence of cyanosis and jactitation and that on the whole the patient is quieter. This result of course may be obtained equally as well by the combination of nitrous oxide and oxygen, and when questioning patients afterwards who on previous occasions had been subjected to gas, they almost unanimously told me that they much preferred that anæsthetic to somnoform. It is further said that dieting is immaterial as no vomiting occurs, also that the position and clothing of the patient are of minor importance, but in answer to these claims I must say that I consider that dieting ought not to be disregarded any more than in any other anæsthetic. In three of my cases there has been vomiting; in two of these the stomach was full of solid food and I must say that at first I was somewhat alarmed as during anæsthesia these patients suddenly became pale, with profuse sweating and shallow breathing and with the pulse rapid and very feeble, and then the contents of the stomach were expelled. In another case that I know of, although not within my personal experience, where somnoform was given for dental extraction, the patient vomited occasionally for several hours afterwards; and in another case which I was told of—that of a woman, aged 30 years, to whom it was also given for dental extraction—fainting occurred and the patient remained in a collapsed condition for over an hour. As to its absolute safety happily I can say nothing to the contrary with certainty, but I have notes of two cases in which there were indications of a condition that might possibly have led to fatal results. In both of these cases there occurred during the administration very marked general rigidity, with arching of the back, spasm of the muscles of the jaw, and some degree of cyanosis with the pupils widely dilated. It is true that these symptoms were overcome by allowing the patient to have a few breaths of air, and I do not therefore desire to lay too much stress upon them, but I think it right to mention this in connexion with the claim that by no possibility can somnoform anæsthesia result fatally. As to the return of consciousness being immediate, I cannot say that this was invariably the case, although it was so in the majority of instances. In one case, that of a child who was operated on for circumcision, six minutes elapsed before conciousness returned, and in another case, that of a boy who was "under" for ten minutes for the extraction of a bullet from the thigh, recovery took as long as 30 minutes. Moreover, it is to the disadvantage of somnoform that it has a very disagreeable odour, due, it is said, to the presence of bromide of ethyl. Somnoform is also, I believe, very liable to decomposition and when kept for any length of time it loses its efficiency and becomes of a yellowish-brown colour, owing, I understand, to free bromine being given off. I must say a few words about the cost of somnoform. The cheapest price at which it can be obtained is, I believe, 6*s*. per bottle, and this is said to contain enough to anæsthetise from eight to ten patients, so that this works out at very much more than the cost of chloroform or ether, with results in my experience not nearly so perfect. On the whole I have come to the conclusion that somnoform possesses few, if any, advantages over the ordinary anæsthetics in daily use, besides having the particular disadvantages which I have attempted to indicate. I am not disposed, therefore, to advocate its use. However, as I have already said, my experience of this anæsthetic has been but very limited and I shall be very glad to have the advantage of listening to the remarks of anyone who has had the opportunity of making a greater use of it than I have enjoyed.

The PRESIDENT, after proposing a vote of thanks to Mr. Foster Cross for his interesting paper, said that personally he had no experience with somnoform and had never given it. It was certainly not, as far as he could judge, going to take the place of gas. With regard to vomiting, it compared very badly with nitrous oxide, under the administration of which only about 1 in 1000 had vomiting.

Dr. R. H. J. SWAN said that he had used somnoform in the dental department at Guy's Hospital on about 500 patients. He had used a cornet-shaped mask and had the same results to record as had been described by Mr. Cross—i.e., vomiting and struggling—but had soon come to the conclusion that the mask was an unsatisfactory thing and had used since a celluloid mask with lint inside so as partially to block the holes and to which was attached a Clover's bag; with this he had given somnoform with excellent results. As a sign of anæsthesia the estimate of the relaxation of muscular power was apt to be misleading and it was difficult to go on with an operation while not knowing whether the patient was sufficiently "under" or not. He found that the best plan was to ask the patient to look at his (Dr. Swan's) finger which he kept moving backwards and forwards in front of the patient's face. In about from 15 to 18 seconds the eyes became fixed, the breathing deeper, and anæsthesia quickly followed. He had produced anæsthesia in some cases in from 90 to 100 seconds, in others in from 35 to 40 seconds. Recovery was not rapid; the patient was very quiet. In few cases was there muscular rigidity. He had used somnoform for operations on tonsils, for adenoids, and in some ophthalmic cases, but these were not satisfactory because of the muscular rigidity of the eye; for any prolonged operations Dr. Swan remarked that in his experience it was unsatisfactory. With regard to cost as compared with that of gas, when giving somnoform with a closed celluloid mask he found the dose recommended, five cubic centimetres, too much; two cubic centimetres were enough, so that a bottle of ten doses was enough for 20 cases. That was about the same as 100 gallons of gas. A small bottle of somnoform cost 6*s*., a cylinder of gas 5*s*., so the former drug cost rather more, but the anæsthesia produced was about twice as long as that of gas, so here there was a saving, as patients did not come round too soon and require a second administration, which was often the case with gas. As to the unpleasant smell, this was not very bad, as several patients he had had preferred somnoform to gas. He found that if the patients were prepared beforehand for the disagreeable odour they would take it easily and not complain

of a feeling of suffocation which was often experienced under gas. He had not had much struggling except in cases of young children. Dr. Swan then gave some results of experiments upon animals with the drug, it having been given to a cat for over eight hours, at the end of which it was purposely killed. In the case of both dogs and rabbits it was found that the respiratory movements ceased before the cardiac movements. The blood was noted before and after anæsthesia and no change was found in the quantity of hæmoglobin or the white corpuscles. As to the future use of somnoform Dr. Swan thought that it ought to be restricted to short operations and should be given in an inhaler with a bag attached. He had had only one case which gave rise to anxiety, that of a little boy, aged seven years, who was under somnoform for 20 minutes, 18 cubic centimetres being given. When taken back to bed he was in a collapsed state and remained so for six hours. Dr Rolland had informed him that he had had two bad cases, one being that of a woman, aged 32 years, with whom he had used the cone and induced anæsthesia for 20 minutes. She had had continual fainting and swoons for some time after. The other case was that of a child operated on for adenoids, 10 cubic centimetres being given with similar results. In conclusion he thought that somnoform should have a further trial.

Mr. EDGAR WILLETT said that he would like to make a few observations about some cases (about 20 in all) of his own, some dental, others for minor surgery, such as opening abscesses in young adults; and his experience corresponded very closely with that of Mr. Cross, he having been able to produce anæsthesia very quickly in about from 16 to 20 seconds. The sign he had gone by was loss of the corneal reflex. There was no obvious sensation during operation, but it had been difficult to obtain complete relaxation of the muscles. The patient said that he had no pain. One of his cases was that of a little boy, aged seven years, for a prolonged operation on the thigh which had to be excised and flushed and sewn up. The operation lasted about 12 minutes. The amount of anæsthetic used was 20 cubic centimetres, small doses frequently repeated being given. The boy became very rigid and once opisthotonos had set in. After the operation he had vomited a good deal, which was one of the symptoms usually believed to be absent with somnoform. The points in its favour were, said Mr. Willett, its portability, its extreme easiness in administration, and its quick action. He did not, however, feel disposed to give it a further trial because he considered gas and oxygen very much better.

Dr. DUDLEY W. BUXTON said that as his experience of the administration of somnoform was slight he proposed to deal with another side of the subject. In the original article of Dr. Rolland some remarks appeared on what was called the physiological action of somnoform. But neither in this article nor in any of the subsequent ones was any serious attempt made to investigate the subject. The admitted composition of the mixture seemed to point to the supposition that the predominant partner was undoubtedly chloride of ethyl. The addition of the chloride of methyl, one which he (Dr. Buxton) believed was not original to Dr. Rolland, but was employed in the so-called "coryl" mixture, possessed a doubtful value, while the small quantity of bromide of ethyl which appeared in somnoform could hardly subserve any purpose other than that of giving the mixture a wicked odour. The Society of Anæsthetics ought, he thought, to record emphatically its censure upon the employment of such fancy and misleading proprietary names as "somnoform," "narcotile," "kelène," &c., and should encourage a careful physiological research upon the action of any new anæsthetic agent before recommending its adoption. But Dr. Swan had mentioned an experiment upon a cat. This experiment was really typical of the unsatisfactory tests which had been applied to somnoform. The cat in question undoubtedly died from asphyxia and incidentally inhaled somnoform during the process. As far as one could at present see somnoform was merely a proprietary and costly form of chloride of ethyl and he (Dr. Buxton) thought its superiority to chloride of ethyl had yet to be proved.

Dr. W. J. MCCARDIE observed that he had given ethyl chloride 600 times and that when somnoform first came out he had compared the two and had found no difference. Inventors claimed for somnoform that it was so safe that it could be administered to female patients without taking off their corsets, which was a most ridiculous assertion. The great objection to somnoform was the smell produced by the 5 per cent. of ethyl bromide in it. He could not see any use in this small percentage nor in the introduction of the methyl chloride. It was, he urged, better to use the ethyl chloride alone. It was difficult with somnoform to get relaxation of muscles, but if pushed far enough this might be obtained. Dr. McCardie mentioned a case of trismus in a man with abscess. The mouth was tightly closed. Somnoform was given and the muscles relaxed, allowing a wedge to be placed between the teeth. He considered that Dr. Dudley Buxton had struck the right note in objecting to the name. He (Dr. McCardie) had pointed out to the agent the impracticability of using a drug of unknown composition. It was a most objectionable method of bringing a new drug before the public.

Mr. HARVEY HILLIARD said that he had used somnoform in the throat department and dental department of the London Hospital in about 200 cases altogether and his experience had been coincident with that of all the other speakers because he had used two methods of administration—the mask recommended by Dr. Rolland and also an Ormsby's inhaler. If given in the mask he found that to produce really deep anæsthesia took very much longer than if given in an Ormsby's inhaler, even as long as one minute or longer. He had seen Dr. Rolland administer the anæsthetic to several cases for tooth extraction and did not consider the patient really anæsthetised; there were much struggling and screaming and the patient was not still enough. Finding the result unsatisfactory he had discarded the mask and used Braine's Ormsby's inhaler. Very excellent results were produced in from 20 to 30 seconds and the quantity used was very much less. The signs of anæsthesia, then, invariably were tracheal stertor, dilatation of pupils, loss of light reflex and loss of corneal reflex, and complete muscular flaccidity. Instead of five cubic centimetres, half was ample for young adults and a quarter of five cubic centimetres produced anæsthesia in 15 seconds in young children. The anæsthesia was very quiet and lasted from one to five minutes, according to the time taken for induction. In adults this took longer than in children. The after-effects were a great drawback to the employment of the drug. When used with Rolland's mask vomiting was common. In half the cases he had had vomiting, but none with the closed method. The symptom most complained of was headache, not immediately, but some hours after. A student to whom he had given somnoform for a dental extraction had said that it was "quite as pleasant as gas, bar the smell." This student made a good recovery without nausea or headache and they parted quite good friends, but next morning he (Mr. Hilliard) was told that the student, having suffered terrible headache and nausea for the rest of the day, was waiting for him with a gun. In another case in private Mr. Hilliard unhappily had given it to a girl, aged 14 years, for a dental extraction; the child was to have returned for a second dose but had suffered so much headache that she refused to come again. He thought that somnoform had no advantage over gas and air except for young children for the removal of tonsils and adenoids and he thought that in that particular class of case somnoform was of some value; but in these cases he had had equally good results with bromide of ethyl. For long operations he thought that it would be distinctly dangerous to give it in a closed inhaler because the operator would not be able to avoid an uneven depth of anæsthesia; at one moment the patient would be deeply, and the next lightly, "under" according to whether a fresh dose of the drug had just been put in the inhaler or not and he did not consider that this was a satisfactory way of giving anæsthetics.

Dr. H. P. NOBLE was anxious to draw attention to two points; one was the diminution in bleeding after tooth extraction and after removal of adenoids and tonsils and the other was that if the patient was warned of the unpleasant smell and was told to breathe quietly there were no sense of suffocation, no holding the breath, and no struggling. Dr. Noble had had a difficult case of tooth extraction—that of a young man about 25 years of age; oxygen was given, but he commenced to retch directly the face-piece was applied. About a week afterwards he was given pure gas, but he commenced to retch before anæsthesia was produced. A third time gas was given by Paterson's method, but again he vomited. The dentist being hindered in his work somnoform was tried. It was taken well and anæsthesia was produced which lasted for three minutes with no bad after-effects. With regard to after-sickness it was not usual when the patient had been

prepared, but many went to the hospital not knowing that an anæsthetic would be used and, of course, they vomited if they had previously taken food.

Dr. A. H. BOLYE remarked that the rapid action of the drug was a great advantage. He had tried it for the removal of tonsils and adenoids, but had found that it was hardly sufficiently anæsthetic in its action for both together. He had had some experience in giving it in longer cases lasting from 10 to 18 minutes. In two of these cases in which the patients became very pale and collapsed the anæsthetic was stopped and they then vomited and quickly returned to consciousness. In the drinking type there was considerable struggling. In one case, that of a man with abscesses on both hands, to whom he gave somnoform the hands and legs were moving during the whole time and the operator had great difficulty.

The report of the council and that of the treasurer were then read.

A vote of thanks to the retiring officers was proposed by Dr. DUDLEY BUXTON who, in a eulogistic speech in the name of the society, thanked Mr. George Eastes for his untiring work for the society during the last five years. This was seconded by Dr. H. LOW. The following officers for the next session were then elected: President, Mr. C. Carter Braine; vice-president, Dr. J. F. W. Silk; honorary treasurer, Dr. R. J. Probyn-Williams; members of council, Mr. Walter Tyrrell, Dr. Flux, and Dr. C. J. Woollett; honorary secretaries, Mr. Harvey Hilliard and Dr. McCardie; and auditors, Dr. J. Blumfeld and Dr. Ada M. Browne.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

The Principles of Dietetics.

A MEETING of this society was held on April 3rd, Dr. GEORGE HERSCHELL, the President, being in the chair.

Dr. ROBERT HUTCHISON opened a discussion on the Principles of Dietetics with an address which is published in full in this issue of THE LANCET.

The PRESIDENT said that as regarded his own part in the discussion that evening he should like to say a few words upon the principles which guided them in the selection of appropriate diet for some of the commoner forms of affections of the stomach. He would speak first of morbid sensibility of the stomach. This might be met with in two distinct conditions: (1) as a purely functional disorder; and (2) as a symptom of some anatomical or structural disease of the stomach. The diet was essentially different in each. Whilst in functional hyperæsthesia of the stomach they were unable to lay down any hard-and fast rule, as the stomach reaction to food was not constant, on the other hand in hyperæsthesia due to a distinct anatomical disease the irritability produced by food always varied in direct ratio to its digestibility. In the latter case they would find that if alcohol, acids, condiments, sweets, peptones, strong soups, and meat extracts were excluded and the food in a finely divided state was given not too hot and not too cold the symptoms of the patient would be invariably alleviated. Such a diet was therefore indicated to be gradually increased as the patient recovered. In the hyperæsthesia of a functional nature they would not be so fortunate; they would search in vain for a diet on which the patient could live without pain; in some cases the stomach was even conscious of the contact of its own walls and was painful when empty. The rule which should guide them, then, in prescribing a diet for such cases was to cease to attempt to find a diet upon which the patient could live without pain but to put him on one which theoretically should not disagree, and ignore the sensations which followed the meal. Of course, if any article of food was found which manifestly caused distress either it should be omitted from the dietary or, better still, administered in a finely divided state and in smaller quantity. Most sufferers from gastric neurasthenia were starving themselves and it must be borne in mind that if the daily food was reduced below the limits required for the maintenance of the equilibrium of the body the stomach would participate in the general tissue starvation and its condition of irritable weakness would be perpetuated. Under the heading of conditions associated with excess of hydrochloric acid in the stomach they had ulcer, functional hyperchlorhydria, and organic hyperchlorhydria due to hypersthenic glandular gastritis—that was to say, a form of chronic gastritis associated with increase and proliferation of the secreting glands of the stomach. In dieting the members of this group they were guided by the main principle to provide a food as unirritating and indifferent in its local action as possible, whilst at the same time having as high a combining power for hydrochloric acid. This was effected by minute subdivision, elimination of any particles which might be insoluble, the omission of condiments, and the reduction of starch to a minimum. As Dr. Hutchison had said, the ranks of specialist physicians who devoted attention to affections of the stomach were split up into three groups: (1) those who favoured an albuminous diet; (2) those who believed that meat, although having a high combining power for hydrochloric acid, yet from its stimulating action would eventually lead to a larger secretion and therefore give starch; and (3) those who favoured a mixed diet. As a matter of fact, the fact was lost sight of that the digestion of no other kind of food left so much hydrochloric acid free in the stomach as starch and the stimulating action of meat upon the gastric secretion varied very much according to the manner in which it was given. Beef-steak grilled and eaten in the ordinary way produced a far greater stimulating action than when scraped free from fat and fibre, made into small cakes, and slightly grilled. Functional and organic hyperchlorhydria should both be treated with the same articles of diet prepared in the same manner, but an important difference existed as to the best arrangement of meals in the two conditions. In organic affections it was not so necessary to secure immunity from mechanical irritation and they could therefore give out food in three large meals a day. The great advantage would be that whilst the stimulating property of the meal would not be sensibly increased, there would be a larger bulk available for mopping up the hydrochloric acid and less free acid would be left at the close of the meal. With ulcer and organic hyperchlorhydria, as they wished to reduce mechanical as well as chemical irritation to a minimum they should give several small meals of bland, finely divided food with as high combining power for hydrochloric acid as possible. As regards subacidity, in cases where the secretion of hydrochloric acid in the stomach was in defect it was obvious that the greater part of the digestive work must fall upon the intestines. The first main fact which would strike them was that there being deficiency or absence of acid in the stomach the digestion of starch begun in the mouth would not be inhibited in the stomach. They might, therefore, with confidence increase the amount of starchy food to make up for the defective digestion of proteids in the stomach. The observation of the cases in which total extirpation of the stomach had been performed showed that an ordinary mixed diet need not be departed from provided that eggs, which were likely to undergo fermentation in the intestines, were excluded and the food was given in a fine state of subdivision. In the dieting of the motor weaknesses of the stomach in myasthenia gastrica they were guided mainly by whether or not there existed a condition of morbid irritability. If such was not the case and the patient was young they might employ exciting articles of diet as a means of awaking the muscular layer and helping to restore the contractility. If, on the other hand, the stomach was irritable as well as weak the food must be bland, unirritating, and finely divided. In all cases it was best to limit the amount of fluid taken during the meal and to let most of the drinking be done about an hour before. In severer cases they might have to suspend for a time nearly all liquid by the mouth and to give it in the form of a slightly saline enema. The condition of gastric fermentation might arise from fault in the food eaten or from disease of the stomach itself. When arising from the latter cause they should always commence treatment by ascertaining that the mouth and gums were free from pyorrhœa alveolaris. It had always been a source of wonder to him why a medical man with a case of gastric fermentation washed out the stomach, eliminated all fermentable material from the food, sterilised the water and milk which the patient took, and yet allowed him to go away without once looking into the mouth and examining into the state of the gums. In pyorrhœa the patient swallowed with every mouthful of food several minims of pus containing millions of micro-organisms and they could see what a futile and hopeless task it would be to try to stop the fermentation in the stomach when they were allowing the alien germs freely to enter it. The next thing

to do was to lavage the stomach. Then they could put the patient upon a diet consisting of meat, gelatin, and dextrinised bread. Green vegetables, fats, starch, sweets, and fruit were excluded, but these might be gradually added to the diet as improvement took place. In very bad cases it was a good plan to abandon feeding by the mouth entirely for a few days, devoting the time to daily lavage and rectal feeding.

Dr. LEONARD LL. B. WILLIAMS proposed a vote of thanks to Dr. Hutchison and said that he would like to add his thanks to those of the President for the very complete and suggestive survey of a difficult subject to which Dr. Hutchison had treated them. The question of diet in nervous disease upon which he had been asked to speak might be summed up in the advice to avoid stimulating foods and stimulating liquors. Dr. Hutchison had not gone into the very important question of alcohol, a question round which many nervous disorders might be said to revolve, but it nevertheless seemed impossible to exclude it from the present consideration. The power of taking alcohol with impunity might be, and to some extent certainly was, an individual matter; but it was also to an extent too little appreciated a climatic matter. The greatest consumers of whisky in the world were the Scotch and yet the two diseases which they were accustomed to regard as the classical examples of the consequences of spirit-drinking—namely, alcoholic peripheral neuritis and hepatic cirrhosis—were so uncommon in Scotland as to be considered rarities. The Scotch were, in fact, able to indulge in ardent spirits with an impunity which to us seemed very astonishing. He would not go so far as to say that the element of climate offered the whole solution to this problem, but he thought that the facts pointed very strongly to the advisability of taking some notice of local customs in the matter of alcoholic drinks, so that if the Scot stuck to his whisky the Englishman would be well advised in being faithful to his beer, the Devonian to his cider, and so on. He deprecated very strongly indeed the fashion which had grown up of late among medical men of advising their patients to drink whisky in lieu of wine or beer. Spirits led much more readily to habits of intemperance than did either beer or wine and the ease with which it was obtained made whisky a great danger in this direction. He though that very grave responsibility rested upon any man who recommended whisky to his patients, especially if those patients were females.

Dr. MORGAN DOCKRELL considered that the theory that dyspepsia was the cause of rosacea and acne was a mistaken one. Acne was due to blocking of follicles and diet had nothing to do with it. In lupus erythematosus diet was important, as it was necessary to get rid of uric acid. It was important to know how far urticaria required dieting.

Mr. CHISHOLM WILLIAMS spoke on the subject of diet in relation to obesity. He had tried every known remedy for obesity but without result. On several occasions he had found that a change of diet led to an attack of influenza.

Dr. R. E. SCHOLEFIELD said that the same diseases were found in various countries with different diets. This made him sceptical as to the influence of diet. It was useless to argue from the diseases of the Hindoo to those of the Esquimaux and the Scot. He still stuck to a diet of pure sterilised milk for infants and his success had been surprising. The next best diet was egg albumin and water. Occasionally obesity was found even in infants. This was often due to anæmia and might be cured by iron.

Dr. T. C. MEGGISON asked for suggestions with regard to diet in anæmia.

Dr. HUTCHISON, in replying, said that he was in accord with Dr. Leonard Williams that alcohol and tea should be avoided in nervous diseases. The mode of drinking might account for the fact of there being more cirrhosis of the liver in England than in Scotland. The Scot usually drank on Saturday night only while the Englishman was always soaking in beer. He did not find Haig's diet useful in gout. He did not think that diet was of much importance in anæmia, but many girls suffered from anæmia because they did not eat enough meat.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on April 2nd, Dr. W. Winslow Hall, the President, being in the chair.—Dr. L. G. Guthrie read a paper on Some Ancient Remedies and on Gideon Harvey, a seventeenth-century physician. He commented briefly on the position of medicine in the latter half of the seventeenth century, showing that the progress of scientific treatment was impeded by ignorance of pathology, by neglect to make use of the great anatomical discoveries of the age for practical purposes, by superstition and tradition in the use of the remedies employed, by multiplicity of medicaments and ignorance of their physiological action, and by abuse of venesection, vesication, issue-making, sweating, purging, emesis, and salivation. Valvular heart disease, cardiac and renal dropsy, and all forms of nephritis, except that dependent on calculus, were unrecognised. Biliary colic, or at all events the jaundice associated with it, was regarded by Sydenham as a manifestation of hysteria. The urine in diabetes mellitus was known to be sweet, but no importance was attached to the fact. Willis thought that all diseases were due to alterations in the crasis of the blood, which he held to be composed of spirits, sulphur, salts, earth, and water. In fevers he believed that the spirits literally boiled, and the sulphur took fire and smouldered. Treatment consisted in attempting to drive noxious substances out of the blood by the methods mentioned above. Historical instances were given in which death was hastened by excessive bleeding and purging, as in the case of Charles II. Gideon Harvey, physician to Charles II., rendered considerable service to medicine by counselling the use of a few remedies the action of which was understood. He showed that the 60 or 70 ingredients of those very popular medicines Venice treacle and mithridate were mostly incompatible and that these compounds owed their virtue solely to the opium which they contained. He parodied Sydenham's famous "expectant attitude" towards diseases with which he was unfamiliar, in a witty little book called "The Art of Curing Disease by Expectation." Gideon Harvey's services to medicine never met with the recognition which they deserved, partly on account of his bitter hostility towards all his contemporaries, and towards the College of Physicians in particular, and partly on account of his inveterate habit of hinting in all his works that he possessed secret remedies and specifics against all diseases. But the pharmacopœias published after his day show that his views were tacitly accepted, as most of the loathsome and absurd preparations which he condemned were left out.—Mr. Raymond Johnson read a paper on Some Mistakes in the Diagnosis of Malignant Disease. He pointed out how mistakes in diagnosis were often due to the primary tumour being overlooked while a symptom caused by a secondary deposit was regarded as the essential disease. In illustration of this reference was made to the case of a woman who came under treatment for almost symmetrical paralysis and muscular atrophy in the upper limbs. The nature of the case was altogether doubtful until a small hard carcinomatous nodule was accidentally discovered in one breast. The necropsy revealed widely disseminated secondary growths, the muscular atrophy being caused by a deposit in the spine in which nerve roots supplying the brachial plexus were involved. Special attention was directed to secondary deposit of cancer in the bones, for if the existence of the primary tumour was unrecognised a secondary cancer might be easily mistaken for a primary sarcoma and possibly amputation of the limb might be performed before the mistake was detected. The diagnosis of malignant disease of the large intestine was not infrequently complicated by the occurrence of a large abscess in connexion with the growth: the abscess might be diagnosed while the tumour causing it was overlooked. Lastly Mr. Johnson referred to the many difficulties met with in the diagnosis of retro-peritoneal sarcoma. A case was mentioned in which an exploratory abdominal section performed on a young man revealed the presence of a large retro-peritoneal tumour having the characters of a soft hæmorrhagic sarcoma. However, a history of epistaxis was obtained and in early life the patient was said to have had an attack of "blood in the joints." This suggested the possibility of an extravasation of blood occurring in a "bleeder." The outcome of the case supported this view. For many months altered blood oozed from an opening in the middle of the abdominal incision, and the tumour gradually completely disappeared. Four years later the patient was in perfect health.—Dr. James Taylor said that he himself knew of an instance similar to the one mentioned by Mr. Johnson, in which the patient, whose case at one time was supposed certainly to be fatal, was now absolutely well. On the other hand, cases unfortunately occurred in which the patient, supposed to be suffering from functional disorder only, ultimately died from malignant disease.—Mr. J. D. Malcolm and Dr. Marmaduke Prickett also took part in the discussion.

SOCIETY FOR THE STUDY OF INEBRIETY.—The last quarterly meeting of this society was held on April 21st, the President, Dr. Harry Campbell, being in the chair.—The President delivered his annual address on the Study of Inebriety: a Retrospect and a Forecast. The object of the society, he said, was the study of inebriety in all its forms—not only the inebriety produced by alcohol, but also the various forms of drug inebriety, such as those produced by opium, cocaine, chloral, and sulphonal, as well as by tobacco, tea, and coffee. He pointed out that caffeine, the active ingredient of tea and coffee, was a vegetable waste product, an excrementitious substance allied to the waste products of the animal organism (urea and uric acid), that it was excreted as such by the kidneys and might thus in course of time predispose them to disease. Caffeine had, moreover, a powerful action on the heart and blood-vessels, as well as upon the nervous system, and he raised the question whether it was wise to administer this drug as a matter of routine to children. He attributed much of the nervousness not only among adults, but among children, especially the children of the poor, to the practice of excessive tea-drinking. He asked the question why it was so difficult to get a good cup of coffee in this country. Many of the poor had never tasted the pure article. Tobacco inebriety was a subject which just now especially claimed attention. He had over and over again seen the nervous system shattered by excessive smoking. The practice of cigarette-smoking among boys had reached dangerous proportions and needed legislative interference. He had little sympathy with the superlative fear, prevailing among many, of interfering in the slightest degree with individual liberty; that bogey would vanish with increasing social enlightenment. Let the individual have all the liberty which he craved to do good but do not let him have a free hand, above all before he arrives at years of "discretion," to injure himself and thus indirectly the State. He pointed out that the ill-effects of alcoholic drinks were largely due, not to the alcohol which they contained, but to foreign substances, such as arsenic and lead, as well as to deliberate adulterations. If people would drink alcohol steps should be taken to see that the community was provided with an unadulterated article, especially when that community spent something like £150,000,000 annually on its drink bill. Much inebriety of all sorts was induced by advertised nostrums. One had made thousands of chloral drunkards. All owners of nostrums should be compelled to publish with each sample an analysis of its contents. To allow this trading in secret remedies was unworthy of an enlightened people and an insult to that large army of scientific workers, all over the world, who were earnestly, patiently, and laboriously seeking to fight disease, content to get their reward, not in financial advancement, but in the knowledge of good work done.—The Honorary Secretary read for Mr. Arthur Sherwell a paper on Inebriety in Scotland, in which, as the result of an extensive statistical investigation regarding the returns as to the consumption of alcohol, prison records, reports of mental cases, and official figures of the mortality from intemperance, it was shown that inebriety was on the increase and particularly in female subjects.—A large number of members and associates took part in the discussion.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on April 3rd, Dr. J. Dundas Grant, Vice-President, being in the chair.—Dr. W. H. Kelson showed a case of Infiltration of the Epiglottis, Arytenoepiglottic Folds, Arytenoids, and Right Ventricular Band, in a man, aged 55 years, probably tuberculous, though no tubercle bacilli could be found in the sputa and there was no sign of pulmonary lesion.—Dr. E. Furniss Potter showed a case of Singer's Nodule in a man, aged 41 years, affecting the left vocal cord.—Dr. H. Tilley showed a case illustrating Radical Cure (by obliteration) of Bilateral Maxillary Sinus Empyema. Large openings were made in the canine fossæ, the lining membrane was scraped, and the cavities were packed for two days, after which nothing further was done except to syringe out twice daily and carefully to dry the antra. It was shown that the cavities were now practically filled with granulation tissue, it being only just possible to pass a probe upwards through the fistulous track through the original opening in the canine fossa.—The case was discussed by Dr. G. W. Hill, Dr. F. de Havilland Hall, Dr. H. W. Fitzgerald Powell, Mr. E. B. Waggett, Dr. H. Lambert Lack, Dr. R. H. Scanes Spicer, and Dr. Dundas Grant.—Dr. L. H. Pegler showed a case of Clonic Spasm of the Muscles of the Palate and Pharynx causing Entotic Tinnitus.—Dr. J. Donelan showed a case of Lesions of the Pharynx and Larynx with a history of severe diphtheria.—Mr. L. A. Lawrence showed a case of Ulceration of the Soft Palate.—Mr. F. H. Westmacott showed a specimen and section of Acute Tuberculosis of the Left Tonsil from a man, aged 32 years. There was no family history or evidence of tubercle elsewhere. Ulceration had spread to the soft palate since removal.—Captain F. O'Kinealy, I.M.S., showed a microscopic specimen of Localised Psorospermosis of the Mucous Membrane of the Septum Nasi. He had been unable to find any previous record of this disease having occurred in the nose. The origin in this instance was attributed to direct infection from raw hides among which the patient had been working.—Mr. R. S. Charsley showed a case of Polypi of the Maxillary Antrum.—Mr. Waggett showed: (1) A case of Sphenoidal Sinus Suppuration in which the anterior wall had been removed with an instrument designed by Dr. Lack; and (2) a case and specimen of Papilloma of the Larynx.—Dr. Dundas Grant showed: (1) A case of Immobility of the Left Cord attributable (?) to bronchocele, in which resection and extirpation of the isthmus and left lobe had been performed (Dr. de Havilland Hall remarked that there were more thickening and enlargement of the left arytenoid than were accounted for by pressure on the left recurrent nerve; it was probably a joint case rather than a paralytic condition); (2) a case of Paralysis of both Recurrent and the Left Sympathetic Nerves in a middle-aged woman; and (3) a case of Disease of the Larynx of 12 months' duration in a man, aged 50 years, probably epithelioma.—Dr. H. J. Davis showed a man, aged 27 years, with a swelling on the right side of the larynx causing partial occlusion, and with a history of hoarseness for the last six years.—The case was discussed by Sir Felix Semon, Mr. H. T. Butlin, and Mr. Waggett.—Dr. V. H. Wyatt Wingrave showed a case of Rapid Destruction of the Nasal Septum.—Dr. H. Burt showed a case of Goitre with Early Exophthalmos.

HUNTERIAN SOCIETY.—A pathological evening of this society was held on March 25th, the President, Dr. Stephen H. Appleford, being in the chair.—Dr. J. W. M. Ettles showed a case of Blepharo-spasm without Ocular Lesion.—Mr. T. Horrocks Openshaw, C.M.G., showed a specimen of a Section through the Pelvis of a patient the subject of congenital hip-joint disease. This specimen showed clearly that it was impossible in some cases to replace the head of the femur in the acetabulum by manipulation. The opening of the latter was seen to be much too small to admit the head of the femur.—Dr. W. H. Kelson showed a specimen and slide exhibiting Extensive Ulceration of the Larynx and Œsophagus in a woman, due to epithelioma.—Dr. L. A. Smith showed a specimen of a Large Kidney which on section proved to be made up of a number of small cysts with scarcely any renal substance remaining. The fluid found in them was identical with that found in ovarian cysts and there was no evidence of duct obstruction.—Dr. W. A. Milligan showed two microscopic specimens: (1) A specimen from a case of Carcinoma of the Stomach, in which the clinical symptoms gave no indication of such mischief. (2) a specimen of Scraping of a Uterus from a woman, aged 63 years, with rapidly growing carcinoma. There was a history of only a few weeks. At the operation the entrance of the dilator was prevented owing to blockage at the internal os, but on pressure the dilator was introduced and on withdrawal a copious flow of pus ensued. A condition of pyometra had been set up by rapidly growing carcinoma.—Dr. E. W. Goodall showed the fauces, larynx, and œsophagus from a case of Diphtheria. The patient was a boy, aged four and a half years, who was admitted to the Eastern Hospital on March 22nd, 1903, on the fifth day of an attack of diphtheria which proved fatal 24 hours after admission. At the post-mortem examination there were two or three subcutaneous hæmorrhages on the legs and many subcutaneous hæmorrhages in the stomach. There was much membrane on the soft palate and tonsils and some in the larynx. The lower two inches of the œsophagus were covered with membrane, but there was none in the stomach. The specimen was shown on account of the rarity of membrane in the œsophagus.—Sir Hugh R. Beevor sent a specimen, which was shown by the secretary, of Syphilitic Liver taken from a girl, aged 16 years. The specimen was indistinguishable at first sight as a liver. There had been signs of hereditary

syphilis present.—Mr. F. Gordon Brown exhibited an aorta which had been transfixed by a stab from a sharp knife which had penetrated the sternum. The point of interest in the case was that the walls of the aorta had been pushed in front of the knife for a certain distance before the cut was made so that the incision was not linear, and, like most of these fatal stabbing cases, both walls of the vessel were perforated. Death had been instantaneous.

FORFARSHIRE MEDICAL ASSOCIATION.—The sixth ordinary meeting of this society was held in the University College, Dundee, on April 3rd, Dr. W. Graham Campbell being in the chair.—Mr. D. M. Greig showed among other cases a man, aged 38 years, after primary amputation of the entire upper extremity including the scapula and outer two-thirds of the clavicle, necessitated by a severe laceration of the limb with great destruction of skin. Mr. Greig attributed the per primam healing to the patient's having had for the six days following the operation a daily injection of ten cubic centimetres of anti-streptococcic serum. He pointed out that the leaving of the inner third of the clavicle with the attachment of the clavicular portion of the sterno mastoid muscle helped to retain the symmetry of the neck.—Professor D. MacEwan showed a Hydronephrotic Kidney removed by operation.—Dr. R. Cochrane Buist read a paper on Puerperal Infection. After a sketch of the natural defences against infection he referred to the use of abdominal palpation and discussed the deleterious effects of intra partum antiseptic douching. Under the head of therapy he urged the use of ergot, the bad results of routine curettage, and the dangers of the antiseptic intra-uterine douche, especially with mercurials. He recommended solutions of salt or sodium bicarbonate followed by strong alcohol. In the general treatment he mentioned the failure of serum and the mischief of extreme alcoholisation and while insisting on the fallacy of reasoning from individual cases considered the reports of good results obtained from the use of remedial measures such as antipyrin, silver, and artefact abscess.—Professor J. A. C. Kynoch in his remarks pointed to the necessity for absolute care in the cleansing of the hands. He agreed that abdominal palpation was useful, but it did not give all the information that the vaginal examination gave. He considered that the danger of mercurial poisoning after treating with mercurial lotion was no greater than that after other antiseptics. It was due to mercurial douching that maternity hospitals, formerly dangerous institutions, were now relatively free from danger.—Professor C. R. Marshall strongly emphasised the great danger in douching such cases with perchloride of mercury lotion.

PATHOLOGICAL AND CLINICAL SOCIETY OF GLASGOW.—The seventh ordinary meeting of this society was held on April 20th, Mr. A. E. Maylard, the President, being in the chair.—Dr. John Anderson showed as a fresh specimen a Brain in which an abscess in the Rolandic area had extended into the lateral ventricles. It was connected with a case of empyema.—Mr. J. Grant Andrew showed a boy who was operated on for Foreign Body in the Left Bronchus; removal was attempted by posterior bronchotomy through the pleural cavity.—An interesting discussion on the treatment followed, an expectant line being strongly advocated by Sir Hector C. Cameron.—Mr. Henry E. Clark exhibited (1) a Bladder showing Sacculation and Abscess Formation from a case of enlarged prostate, as well as the Kidneys from the same case; and (2) a Uterus the subject of Carcinoma of the Body removed by the para-vaginal method.—Mr. John H. Teacher reported on the intestinal concretion shown at the last meeting by Dr. J. Crawford Renton, which proved to be an oat-seed concretion (avenolith) and exhibited for comparison a number of specimens of similar concretions from the Hunterian Museum, University of Glasgow.—Dr. J. Kerr Love showed a series of stereoscopic photographs illustrative of the Anatomy of the Temporal Bone which were highly appreciated.—The following card specimens were shown by the President: Three sets of Gall-stones removed from the same case—(1) faceted stones from the gall-bladder; (2) one large corrugated stone impacted in the cystic duct; and (3) a similarly corrugated but smaller stone impacted in the common duct.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 1st, Mr. J. Mackie, the President, being in the chair.—Dr. Astley V. Clarke, the honorary secretary of the Leicester Medical Society, introduced the subject of the proposed incorporation of local medical societies with the British Medical Association and he urged that the Nottingham Medico-Chirurgical Society should consider it.—Mr. R. C. Chicken showed: (1) A young man with Partial Dislocation of the Spine in the Cervical Region (with a skiagram); and (2) a patient with Synovial Arthropathies.—Mr. Chicken then read a paper on Pseudo-hypertrophic Synovitis. He described a condition frequently met with in miners and others following laborious occupations in which the alar ligaments of the knee-joint, and more especially the internal, increased in size and thickness; during movement they became trapped between the articular surfaces, giving rise to symptoms closely resembling those caused by a loose cartilage. The exquisitely sensitive edge of the thickened synovial membrane could be felt plainly just in front of the internal lateral ligament, quite distinctive from a loose cartilage except in the very earliest stages. Excision of the affected membrane was the only radical cure.—Dr. T. A. Clinch read a short note on Bullæ, their Medico-legal Aspect.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held on April 9th.—Dr. M. Benson, the President, read his presidential address on the Treatment of Disease in accordance with the Symptoms exhibited.—The paper was an interesting one and gave rise to a good discussion, the following members taking part in it: Mr. C. M. Brady, Mr. William Latham, Mr. J. H. Fletcher, Mr. L. Cooke, Mr. J. E. Parker, Mr. G. H. Monks, J.P., Dr. R. P. White, and Dr. John Blair.—A cordial vote of thanks was passed to the President and he replied to the discussion.

Reviews and Notices of Books.

A System of Clinical Medicine, dealing with the Diagnosis, Prognosis, and Treatment of Disease, for Students and Practitioners. By THOMAS D. SAVILL, M.D. Lond., Physician to the West-End Hospital for Diseases of the Nervous System; Physician to St. John's Hospital for Diseases of the Skin, London; formerly Medical Superintendent of the Paddington Infirmary. Vol. I. Local Diseases and Microbic Disorders. London: J. and A. Churchill. 1903. Pp. 702. Price 12*s.* 6*d.*

IN writing a System of Clinical Medicine Dr. Savill has adopted a plan which we believe will be found to be of great assistance both to students and to practitioners. He has approached the subject from the standpoint of symptomatology. Especial stress is laid on regional anatomy and the localisation of symptoms, whilst morbid anatomy and pathology are made to take rather a subordinate position and are only referred to in their strictly practical bearings. Not that we approve in any way of the separation of clinical medicine and pathology—that would be a grave retrograde step; but there are so many excellent special treatises on morbid anatomy and pathology that a work on purely clinical medicine may be cordially welcomed.

A uniform plan has been adopted throughout the whole volume. The first chapter is preliminary and describes the examination of patients and indicates certain general principles underlying methods of observation, diagnosis, prognosis, and treatment. In the second chapter the physiognomy of disease is discussed. The succeeding chapters deal seriatim with the symptoms and signs referable to the several organs or anatomical regions of the body taken in the order in which they ordinarily are examined, the causes of those symptoms, and the diagnosis, prognosis, and treatment of the diseases to which they refer.

Each chapter is divided into three unequal parts. Part A treats of the symptoms which may indicate disease of the organ or region under discussion and the fallacies incidental to their detection and supplies an account of the various causes which may give rise to those symptoms. Part B deals with the physical signs of disease in that region and the various methods employed to elicit them. Part C, which constitutes the major portion of each chapter, is

prefaced by a clinical classification of the various maladies affecting that region and a summary of the routine procedure to be adopted, and these are followed by a series of sections dealing with the several diseases arranged according to their clinical relationships. This scheme has been admirably carried out and for the most part Dr. Savill has been successful in producing a very useful and practical work. A captious critic might find fault with certain details and there are one or two points to which exception may well be taken, but regarded as a whole the book will prove a valuable one to those for whom it is intended.

As an example of the way in which the diseases of the various systems of the body are considered we will take Chapter VI. which is headed "The Lungs and Pleuræ." After a few introductory remarks Dr. Savill proceeds to "Part A, Symptomatology." The cardinal symptoms are described and differentiated, such as cough, breathlessness, expectoration, pain in the chest, and hæmoptysis. The remarks on those manifestations are full and the description is accurate. In Part B, which deals with Physical Examination, minute directions are given as to the examination of the lungs by means of inspection, mensuration, percussion, palpation, and auscultation. Of this part also we can speak in approving terms. Part C is headed "Diseases of the Lungs and Pleuræ, their Diagnosis, Prognosis, and Treatment." These diseases are divided into acute and chronic, and subdivisions are formed according as to whether the percussion note is unaltered or whether there is dulness or hyper-resonance; for clinical purposes this is a fair practical classification. Each disease is then considered separately, a diagnosis first being arrived at. For instance, under the division Acute Diseases we find a paragraph in italics: "I. The patient complains of a cough with frothy expectoration and his temperature is slightly elevated; there is no alteration in the percussion note, but on auscultating the chest loud rhonchi are heard. The disease is acute bronchitis." A detailed description of the symptoms, physical signs, differential diagnosis, prognosis and treatment follows. In the great majority of instances this plan answers well, but we have noted some exceptions. For instance: "III. The patient complains of breathlessness; on examining the chest dulness is found at one or both bases; and on auscultation fine crepitations are heard. The disease is pulmonary congestion or œdema." Pulmonary tuberculosis occasionally commences at the base of the lung and may give rise to the same symptom and physical signs; likewise, these signs are not infrequently met with after a subsidence of pleurisy with effusion. Neither of these conditions is mentioned in the text. These exceptions do not, however, alter the value of the general arrangement adopted by Dr. Savill. We commend the use of the italicised paragraphs which, standing at the head of each section dealing with a separate malady, emphasise the salient features by which a disease may be recognised and differentiated from others belonging to the same group. The paragraphs referred to are brief clinical definitions and they form, as Dr. Savill expresses it, "sign posts" or guides in the process of diagnosis.

Whilst the symptoms, diagnosis, and prognosis of each disease are fully and accurately described we cannot speak in such terms of the sections devoted to treatment. The remarks on this subject are vague and wanting in detail. Certain drugs are mentioned but the methods of administering them in different circumstances are not sufficiently fully stated, and in future editions of the work the sections dealing with therapeutics may with advantage be considerably amplified. We should mention, however, that at the end of the volume are a large number of useful formulæ for prescriptions. Another matter which we should like to see altered (it may be considered a trivial one) is the free use of contractions of words and phrases in which Dr. Savill indulges—such as "r" and "l" for right and left, "C.V.D." for cardiac valvular disease, and "R.M." for respiratory murmur. To most readers these contractions are objectionable and they serve no useful purpose. As we have already said, however, taking the book as a whole, we have formed a high opinion of Dr. Savill's work; we wish it the success that it deserves and look forward with interest to the publication of the second volume.

Diseases and Injuries of the Eye, with their Medical and Surgical Treatment. By GEORGE LAWSON, F.R.C.S. Eng., Consulting Surgeon to the Royal London Ophthalmic Hospital and to the Middlesex Hospital. Sixth edition, with 249 Illustrations. Revised and in great measure rewritten by ARNOLD LAWSON, F.R.C.S. Eng., Assistant Surgeon to the Royal London Ophthalmic Hospital. London: Smith, Elder, and Co. 1903. 8vo., pp. 587.

THIS volume contains the observations and experience of two generations. Mr. George Lawson, ophthalmic surgeon in ordinary to our late Queen, published many years ago a manual which on account of its accuracy, comprehensiveness, and brevity was very favourably received by the profession and especially by those who were, or had been, studying at the Royal London Ophthalmic Hospital. It ran through several editions. But as is usual with scientific works that have received frequent emendations, corrections, and additions, it required, in order that it might be brought up to the present state of our knowledge, complete recasting. This Mr. Arnold Lawson has set himself the task of accomplishing and we doubt not that it has been a labour of love. The book has been considerably enlarged and to a large extent re-written. Chapters on the Development of the Eye, the Pupil, the Affections of the Eye in Diseases of the Nervous System, and other subjects have been added and the general arrangement of the whole work has been remodelled. Many new woodcuts have been inserted and the majority of these are extremely well executed and instructive.

The feature of the treatise that will be most appreciated by the more advanced reader is the manner in which disputed points are discussed. Thus, in regard to sympathetic ophthalmia the authors observe that there is in general a well-marked distinction between sympathetic irritation and sympathetic ophthalmitis, though doubtless cases are occasionally met with in which long-standing sympathetic irritation may run into sympathetic ophthalmitis. The chief differences between the two conditions, it is pointed out, are first that in the former affection, notwithstanding frequent recurrences of inflammatory symptoms, no fibrinous effusions or disorganising changes of the different tissues of the sympathising eye take place, and, secondly, that the excision of the originally injured eye at once arrests the disease. In considering sympathetic ophthalmitis the arguments in favour of a specific origin and those against that view are concisely given. In describing the operation for the extraction of cataract, the three-millimetre flap operation, the cut corresponding to the upper margin of the cornea, is recommended. The steps of the operation in general use are followed and in speaking of the needling of secondary cataract or of capsular opacities it is justly remarked of this proceeding, so lightly undertaken by the inexperienced operator, that the risk which attaches to it is almost as great as that attending the extraction of an uncomplicated cataract and it is proposed that if a patient can read No. 6 of Jaeger's test-types he, as well as the surgeon, should be satisfied; with this dictum we are thoroughly in accord. Nothing is more disappointing to the patient who has passed through the anxiety attendant upon the first operation, and who has been told that the secondary operation is a mere trifle, than to find that its result, unless an instant sclerotomy or iridectomy is performed, has been to destroy all the good effects of the surgeon's skill and his own patience; the benefit which he had fully expected would result in

the permanent recovery of vision is lost. A satisfactory account is given of granular conjunctivitis or trachoma. The authors regard this affection as presenting two forms, the acute and the chronic. They consider it to be contagious and to be distinguished from follicular conjunctivitis by the circumstance that it always affects the palpebral conjunctiva; they say that its intractable nature renders strong measures indispensable and these measures are given in full detail.

The chapters on the Choroid and Retina with the accompanying illustrations show what great advances in the diagnosis of the diseases affecting the interior of the globe have been made since the introduction of the ophthalmoscope, though, unfortunately, with but little improvement in the treatment. In the chapter on Diseases of the Lacrymal Apparatus some judicious remarks are made on the application of probes and the objections which exist to the employment of very large ones are clearly stated.

An interesting chapter is devoted to the method at present in use for the localisation of foreign bodies in the eye by the x rays and a description is given of Mackenzie Davidson's apparatus with cross threads. A drawing is also introduced of the powerful magnet employed by Haab. By the precise localisation of the foreign body in the eye with the subsequent employment of the magnet excellent results have been obtained. At the Royal London Ophthalmic Hospital Mr. A. F. MacCallan finds, on a review of all the cases in which these means have been used, that 58 per cent. of injured eyes have been saved.

Much pains have been taken with the chapter on the Affections of the Extrinsic Ocular Muscles and the action of these muscles and the results of their paralysis are very clearly described

We must not omit to refer to the index, the compiling of which doubtless involved considerable labour. It not only contains an unusually large number of entries but it gives many cross references. Thus, under the head "Ciliary Body" there are no less than nine primary references—viz., to the anatomy of this region, to ciliary asthenopia, carcinoma, cysts, diseases, injuries, inflammation, tumours, and wounds of this region, with cross references to iris, ciliary body, and cyclitis.

In conclusion, we have no hesitation in expressing the opinion that the treatise is a thoroughly trustworthy guide to the student and the practitioner and a valuable addition to the ophthalmological literature of this country.

The Uniform System of Accounts for Hospitals, Charities, Missions, and Public Institutions. By Sir HENRY BURDETT, K.C.B. London: The Scientific Press, Limited. 1903. 9½ × 6 inches. Pp. x., 103. Price 4*s.* net.

SINCE "The Uniform System of Accounts, Audit, and Tender" was first issued in 1893, not only the London hospitals and public institutions, but a large number of charities and smaller institutions of a similar character throughout the kingdom and in some British colonies have found it desirable to avail themselves of the methods inculcated. Every foundation dependent for its income upon voluntary contributions may find among its supporters benevolent persons who will be moved to give without exact inquiry into the details of its expenditure, but at the same time it will have among those who sympathise with its work a far greater and more important section of the public who will wish to know its financial position and to be satisfied that their money is carefully and economically dealt with before they appear among its subscribers. In order that these may be able easily to obtain the necessary information it is clear that the public institution desirous of their support must not only keep its accounts accurately, but must so keep them that they may be readily and lucidly summarised for the benefit of those who have no time to study them in a more voluminous form. Uniformity of system renders comparison easy, and the institution that so offers its accounts that they can be fully understood and compared with those of kindred establishments will not suffer by its candour. It is hardly necessary to refer to the admirable effect which the introduction of a simple and universal system of accounts has had in London. It has, in particular, rendered possible the working of the Hospital Sunday Fund, which, in order to be able to test efficiency, has exacted uniformity from the hospitals to which it has made distribution and has thus paved the way for the effective working of the other great funds the committees of which have followed in its footsteps. The present volume amplifies and enlarges the former guides which have been published to the same end and its careful study is to be commended to all those interested in the maintenance of hospitals, cottage hospitals, orphanages, and other institutions of corresponding character whether great or small in which the system advocated has not yet been introduced. Many hospitals and infirmaries in country districts have upon their governing bodies gentlemen and ladies whose concern is with the business and financial, rather than with the medical, conduct of charities which may not be over-flourishing. To such as these Sir Henry Burdett's latest issue should prove a valuable aid. It may be added that the books of account the use of which is recommended are now obtainable from the Scientific Press, Limited, so that the expensive necessity of having books ruled and printed to suit the exigencies of hospital work may be avoided.

LIBRARY TABLE.

Inoculation against Malaria. By Dr. PHILALETHES KUHN, Staff Surgeon to the Imperial Troops of the South-West Africa Protectorate. Translated by H. A. NESBITT, M.A. London: H. K. Lewis. 1902. Pp. 32. Price 2*s.*—In this pamphlet Dr. Kuhn gives a short description of observations which he has made during a residence of five years in German South-West Africa in regard to a serum for inoculation against malaria. He first gives a description of a malady known as "horse-sickness," an acutely infectious disease affecting horses and mules in South Africa. He states that he has discovered a serum against horse-sickness which possesses the power not only of curing the disease in affected animals, but also of bestowing temporary immunity against future attacks. Dr. Kuhn maintains that malaria and horse-sickness have many points in common, and acting on this theory he has inoculated patients suffering from malaria with the serum obtained from horses suffering from horse-sickness. The results so far obtained are not very convincing but are sufficiently encouraging to merit a further trial of the treatment. Dr. Kuhn found that if the inoculation was made during a paroxysm of malaria the attack was relieved and also a certain immunity was conferred against future attacks. Unfortunately, owing to the vicissitudes and undeveloped condition of the colony it was not possible to conduct continuous observations on patients who had been inoculated, so that their subsequent history could not be obtained. Dr. Kuhn promises to publish his further experiences and it will be then more easy to judge as to the value of the serum which he has employed.

Colonial and Camp Sanitation. By G. V. POORE, M.D., F.R.C.P. Lond. London: Longmans. 1903. Pp. 43. Price 2*s.*—Dr. Poore is well known as an ardent advocate of common-sense sanitation, and in the little book before us, the contents of which are reprinted from his Milroy Lectures and "The Dwelling House," he has gathered together "matter which is applicable to colonial and camp sanitation." Dr. Poore writes as one who has tried the measures which he advocates and has found them successful. They do not of course pretend to be applicable to the town-dweller but we advise those who live in the country to give Dr.

Poore's methods a trial. When carried out with strict attention to detail their results seem to be admirable.

JOURNALS AND MAGAZINES.

The Practitioner.—The April number of this journal is not so well provided with good original articles as is usually the case. It contains, however, some careful records of interesting and instructive cases. Dr. S. Vere Pearson gives a thoughtful consideration of the differential points in diagnosis between croupous and catarrhal pneumonia in infants—conditions in which the prognosis is so dissimilar that accurate diagnosis is of the very highest importance. Mr. D. J. Armour in a review of recent surgery of the nervous system goes thoroughly into the question of the surgical measures for the cure of epilepsy and gives Sir Victor Horsley's valuable and concisely formulated views on the subject. Mr. Malcolm A. Morris, the late editor of the *Practitioner*, writes upon the light treatment of lupus and other skin diseases and amongst other articles are contributions from Dr. John Philips and Dr. Nathan Raw.

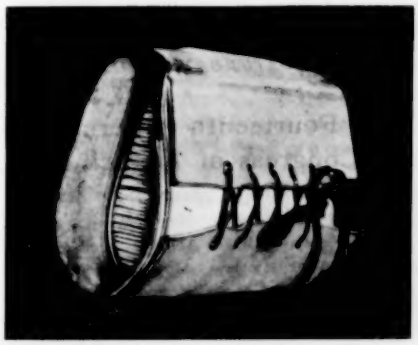
South African Medical Record. March, 1903. Price 1*s.*—We have received the first monthly number of this journal which is devoted to the interests of the medical profession in South Africa. Mr. S. W. F. Richardson contributes some remarks upon the Surgical Treatment of Appendicitis; Dr. G. A. Casalis deals with the subject of Curettage; Dr. W. E. Smith writes some notes on the Symptoms and Diagnosis of Iritis; and Dr. E. Sinclair Stevenson has a paper on Some Obscure Cases in Abdominal Surgery. Having regard to the non-success of some previous ventures in medical journalism in South Africa the editor is to be congratulated on his courage in starting a new journal. We hope his efforts will be rewarded with success.

Flora et Sylva. No. 1. Edited by W. ROBINSON. London: 17, Furnival-street, Holborn. Price 2*s.* 6*d.* net.—This is the first number of a new monthly review "for lovers of landscape, tree or flower," and the editor is one well qualified for his work, for he is the author of that admirable book, "The English Flower Garden." The review is beautifully printed on paper which appears to be hand-made and most probably is so. The type is a well-cut "old-face" (in connexion with which the printers need reminding that the character "*b*" is another form of the more usual "*h*" and should not be confused with the character "*l*," as has been done), while the illustrations are admirable. Some of them are coloured and are notable instances of colour printing, others are actually woodcuts, and two which are relegated to a kind of appendix are process blocks. Everyone who loves a garden and is fortunate enough to possess one should read this new review in which we are glad to see a paragraph in praise of woodlands.

New Inventions.

A MODIFICATION OF ALLIS'S ETHER INHALER.

I BEG to recommend to the notice of the readers of THE LANCET a very useful modification in the form of Allis's ether inhaler, made by Mr. Robert Henry Lavender, one of the secretarial staff of the Liverpool Royal Infirmary, and daily used throughout the surgical department of that institution. Hitherto the cage-like frame upon which is wound in and out a long strip of flannel or stockinette bandage to hold the anæsthetic liquid, has been covered up in a large rubber tube slipped over it but not easily moved off and on. To facilitate cleaning and the easy frequent removal of the rubber cover Mr. Lavender has had the latter constructed, not as a closed tube, but in the form of a sheet to lace on. The ends of the sheet overlap so as to be air-tight and are bound on the frame by lacing a couple of flaps attached to their outer side and provided with eyelets. The frame itself was many years ago improved by my colleague, Mr. F. T. Paul, who had it strongly made of wires attached at each end to an oval metal ring perforated with holes, into which the wires fit



and are soldered in position. Thus made the frame can resist more than any pressure likely to be put upon it, and is a great improvement upon the form flimsily constructed of a mere sheet of metal perforated in slits and bent to the required form, but not rigid enough for the purpose.

The inhaler is made for us by Messrs. Ewing and Co., Pembroke-place, Liverpool (adjacent to the hospital), and the accompanying illustration explains its details.

RUSHTON PARKER,
Professor of Surgery, University College, and Surgeon to the Royal Infirmary, Liverpool.
Liverpool.

IMPROVED LEG SUPPORT.

Apropos of the "Improved Leg Support" described by Dr. W. A. Carline in THE LANCET of April 4th, p. 974, perhaps the readers of THE LANCET may be interested in an apparatus devised by me for a similar purpose and now used in the out-patient department of Sir Patrick Dun's Hospital, Dublin. It consists simply of a light round iron bar bent in the manner shown in the illustration. One end bears a rest for the heel, the other being fixed to an oblong wooden base. This

foot rest has the advantage that in cleansing the limb or applying lotion any superfluous fluid runs down to the most dependent point of the curve under which a receiver is placed. In practice it is found much more convenient than the old pattern, where the heel is supported right above the central pillar, along which fluid is liable to escape to the floor. Every part of the supported limb is accessible for dressing, bandaging, &c.

F. J. STRONG HEANEY, M.D. Dub., F.R.C.S. Irel.
Blackpool.

THE LANCET.

LONDON: SATURDAY, APRIL 25, 1903.

The Fourteenth International Congress of Medicine.

THE proceedings of the Fourteenth International Congress of Medicine, which are under the patronage of his Royal and youthful Majesty KING ALFONSO of Spain, were inaugurated on Thursday last, April 23rd, and will, it is hoped, prove successful in every way. As we have before now said, we do not regard medical or other scientific congresses as holding out much prospect of advancement to our knowledge. The day is to some extent gone by when it is of the first importance that medical men should meet face to face to compare their views or to communicate their researches in respect of disease. A voluminous and, on the whole, a responsible and well-informed medical press in every country provides a medium for the dissemination of professional knowledge and this being the case no medical man is for the future likely to withhold from his brethren any valuable discovery in order that he may make an imposing pronouncement to them at an International Medical Congress. The official programme of the Madrid Congress has not yet reached us, the dilatoriness of the officials of the Congress in the matter, to which we have referred recently, being this week made the subject of comment by our special correspondent at Madrid who, however, acquits them of blame in the trying circumstances. We understand that the promised proceedings do not include any papers which record startling therapeutic or pathological advancement. This was the case at Moscow on the occasion of the twelfth International Medical Congress, where valuable contributions to medical and surgical knowledge were read in many sections but where no marked innovation of theory or practice was recorded. If, however, those of our countrymen who attend the International Medical Congress at Madrid do not come away with any new learning—and many will find attendance at a crowded congress in a foreign capital far from conducive to their learning anything at all in the nature of scientific facts—they cannot help acquiring much valuable knowledge of life in general and the *vita medica* in particular by their visit to Madrid. The sights, the customs, the social observances, and the methods of living, no less than the hospitals, the libraries, and the courteous personalities of their hosts, will all serve to stimulate new sensations, to arouse new ideas, and to provide food for pleasant reflection afterwards. The visitors will acquire standards of comparison which will reduce in our countrymen the predisposition to dogmatise with which as a nation we are reproached. This alone will be a gain of inestimable benefit to members of a profession where so much depends upon the capacity of an observer to take an all-round view of a situation. Our special correspondent's letters do not foreshadow any great scientific reputation for the Congress in Madrid. The arrangements of organisation were not ready when the day of the opening of the Congress arrived, but had more punctuality been observed the city could not have been transformed into an ideal centre for a meeting of persons of all nations and languages, for it is a national capital, not a cosmopolitan business centre. The limitations of Madrid, however, have their advantages. In London, Paris, or New York a man of any civilised nation can find persons, probably persons of his own nationality, able to minister to the wants peculiar to his nation. Therefore he does not live the life of London, Paris, or New York, but rather his own national life with certain economic or climatic modifications. In Madrid it is only open to do as Madrid does, and a first-hand acquaintance with a foreign city is thus thrust upon the traveller, unless he proposes to sojourn at one of a small group of hotels where the prices appear to have been driven up to extortion pitch by the reprehensible and unpatriotic methods of speculators. This makes for the expansion of view that is so healthy for all who are absorbed in the practice of medicine, and for this reason alone the British visitors to the Congress at Madrid cannot help benefiting by their experiences.

The Increase of Cancer and Cancer Research.

EVER since the KING publicly expressed his desire that the deplorable increase of cancer prevailing throughout his dominions should receive the earnest notice of the medical profession with a view, if possible, to the discovery of means for its prevention, the subject has engaged a large share of public attention. This is as it should be, for in such matters as the prevention of widespread diseases the medical profession expects the coöperation of the laity; but we notice with regret that since the issue of a report on the prevalence of cancer by the Registrar-General of Ireland the English daily press has been literally inundated with correspondence dealing with the causes and cure of cancer and proving nothing but the ignorance or the indiscretion of the writers. The publication of such letters at the present time can only hinder the due consideration of a problem the solution of which we desire, on behalf of suffering thousands, to see accomplished at the earliest practicable date.

Whatever may be the true explanation of the fact, the national records of England contain abundant evidence that in recent years the deaths attributed, rightly or wrongly, to malignant disease have rapidly increased both absolutely and in relation to population. It is a disquieting fact that as time goes on cancer contributes a larger and larger share to the total mortality and this is particularly the case as regards persons who have passed the meridian of life. From the report of the Registrar-General of England for 1900, which is the latest issued up to the present time, we gather that among women who have attained their forty-fifth year of age, as well as among men ten years older, cancer exacts a yearly death-toll vastly heavier than that which is levied by that other national scourge, pulmonary tuberculosis. It would therefore appear from statistics that thousands of those whom medical science has in these more

enlightened days enabled us to rescue from premature death from tuberculosis are doomed, after a respite of only a few years to fall victims to another and more terrible destroyer. For many years previous to the occasion on which the KING gave expression to the anxiety felt on this subject by the entire thinking portion of his people, the terrible suffering which cancer was known to inflict on the inhabitants of our own and other countries of Europe had attracted the sympathetic attention of the foremost minds in our profession; and although pathologists have not as yet discovered the organism, if such there be, the study of the life history of which will enable us to do for cancer that which is happily at the present time in course of accomplishment for tuberculosis, nevertheless the medical literature of the last decade clearly indicates that much useful though unobtrusive work has been done which it is reasonable to hope will one day bear good fruit. The work has hitherto been carried out for the most part by individuals privately and amid the cares and responsibilities of medical practice; consequently there has been little opportunity of comparison with the similar work of other observers. Indeed, until very recently there has existed in England no organisation by means of which scientific results in cancer research could be collated and tested on their merits discussed. We have always entertained the opinion that, if a problem of such acknowledged intricacy as the origin of cancer is to have a chance of ultimate solution, well-directed and perhaps long-continued pathological study must go hand-in-hand with systematic clinical observations. But in order that this may be achieved it is necessary, *in limine*, that some highly trained experts free from the distractions of medical practice should be able to devote themselves more or less exclusively to research. In this country this has been impracticable until recently from lack of the necessary funds. The scheme inaugurated last year under Royal patronage for the scientific investigation of malignant disease has unquestionably been started on right lines. Under the control of the Royal College of Physicians of London and the Royal College of Surgeons of England the arrangements have been settled by men of high professional standing as well as of acknowledged competence in their respective departments and, always provided that a continuance of the requisite financial and scientific support can be insured, we think that the public may await the issue with some confidence. But money, perhaps much money, may be wanted for some time to come and the active coöperation of our great hospitals is also earnestly desired. The results obtained by pathological laboratories endowed for research work alone may be jeopardised by the absence of sources from which to draw their necessary materials. This is a matter to which we alluded upon the institution of the Cancer Research Fund and which we wish to bring before the profession again, so that all necessary assistance of the work may be forthcoming. The central bureau of observation must be fed from outside sources.

A special report upon cancer in Ireland by Mr. R. E. MATHESON, Registrar-General of Ireland, to the publication of which in blue-book form we referred briefly in an annotation in THE LANCET of April 11th (p. 1047), deserves, and will doubtless receive, careful consideration from the Cancer Research Committee as well as from the medical profession. The report is based on a considerable number of facts and opinions—mainly on the latter—concerning the incidence of reported cases of the disease in various districts and upon specified sections of the population of Ireland. It is replete with the impressions of individuals on matters of heredity and also concerning the supposed infectiousness and transmissibility from person to person of the various forms of malignant disease. We have now before us all the information obtainable from official sources as to the enormous disparity which is alleged to exist between England and Ireland as regards the fatality of cancer. But although highly interesting in itself, this report cannot be regarded as of much scientific value, for the information relied upon for its compilation is in many instances derived from non-medical sources; nevertheless it shows unmistakeably that what is believed to be cancer is increasing in Ireland as in other parts of the United Kingdom and that certain specified areas of Ireland suffer more severely than others. Inasmuch as we are satisfied that the Cancer Research Committee has already commenced its labours in earnest, we refrain from discussing the many questions affecting the origin and spread of malignant disease which are touched upon in Mr. MATHESON'S report. Such matters form the special province of the Committee and discussion of them at large is to be deprecated just now as possibly hampering the Committee. Members of the medical profession, however, may greatly assist the Cancer Research Committee by communicating to Dr. E. F. BASHFORD, pathologist to the Committee, at the Examination Hall on the Victoria Embankment, any clinical or other definite information in their possession on the subject of cancer. We further trust that they will advise both their patients and such friends as they can influence to take the same course, and in any case to abstain from rushing into print with ill-considered suggestions for the cure or the treatment of cancer. The Cancer Research Committee can collate and appraise the value of all facts or theories submitted to its notice out of considerable experience and because of great opportunities of comparison. The lay press, not having these advantages, invariably selects for publication the silliest, because the most sensational, stories. The speculations which followed upon the publication of the blue-book upon cancer in Ireland and which were reproduced broadcast in the newspapers were most unfortunate. There will be a legitimate opportunity for ventilation of the subject after the Cancer Research Committee has issued a report. Meanwhile we think that it is only fair to the Committee to which the question has been authoritatively referred to await its conclusions. These conclusions can only take the form of *ad interim* suggestions and further discussion will naturally follow upon their publication.

Our Food-Supply in Time of War.

A ROYAL Commission has been appointed to inquire into all the circumstances affecting the importation of food and the raw material of food into the United Kingdom in time of war. The amount of the reserves of such supplies existing in the country at any given period will also be considered

by the Commission which will have to advise whether it is desirable to take any measures other than the maintenance of a strong fleet by which our food-supply can be made secure and both starvation and starvation prices can be avoided. The names of the Royal Commissioners, which have been brought prominently before our readers in the daily press, will be found in another column. They include H.R.H. the PRINCE OF WALES and 17 gentlemen who are all qualified in various and unmistakeable directions to take and to weigh evidence in this most difficult and sweeping inquiry; but the absence from the Commission of a medical man and a chemist cannot but strike our readers as most unfortunate. The extreme importance that is attached to the proceedings of the Commission is proved by the nomination of the Heir Apparent to the Crown as a member as well as by the inclusion of so many men of first-hand knowledge in matters of transport, of commerce, and of statistics. But while it is obvious that these matters are the ones which will first come under notice and on which most of the evidence will have to be taken, it is no less obvious that the whole inquiry is so vast in scope that the consideration of many side issues must be imported into it. Some of these, though narrow in themselves, may prove to be, when followed up, the deciding factors in the answers given upon the main questions, and we think it regrettable that the country will not have the advantage at the deliberations of the Commission of the presence of men with a scientific knowledge of food and food-stuffs, who can speak as to the physiological and dietetic values of food whether manufactured or in the raw and who can appreciate some of the chemical problems involved in the transport and storage of edible products.

The conditions of this country in time of war, it being assumed that the war is one against a first-class power, are singular, in fact, we believe they are unique in the history of the world. Our soil at the present moment does not produce enough food to supply half our population—pessimists have put the fraction that could be fed much lower in the frequent communications that have been made public upon the subject—although the populations of Ireland and Scotland are small in comparison with their acreage. Even to obtain from the soil of Great Britain an adequate food-supply for half the inhabitants an adjustment of work would be required amounting to a social revolution. This being so, and everyone knows that it is so, the conclusion is clear that unless we could import food during war we should starve in an appreciably short space of time. This means, again as everyone knows, that we must have a navy so preponderatingly strong and a mercantile marine so efficient that whatever the force brought against us we could always insure the transport of food. As to what the measure of strength or the standard of efficiency implied may be probably no authorities are agreed, but the Commission embraces among its *personnel* men of varying shades of political opinion who are eminently calculated to obtain full information on such points because of their intimate acquaintance with the problems of imperial defence. Of course the first questions to be decided in what bids fair to be an elaborate study of the nature and working of the import trade of this country will revolve round the methods which it is possible to employ, both in ordinary circumstances and in emergencies, for the transport of food and food-stuffs. Upon such questions as the number of battleships necessary, the strength of the mercantile marine to be maintained, and the countries to be looked upon as the probable ones for the obtaining of different food and food-stuffs the Royal Commissioners are well informed and will therefore be able to elicit and to appreciate the testimony of others. All the economic and statistical complications likely to be comprised in an inquiry that has for one of its objects the avoidance of violent fluctuations of price will receive the attention of a Commission numbering in its body experts in such directions. For the due consideration of none of these matters is a medical voice required so long as food and food-stuffs are regarded simply as food and food-stuffs, *always* wholesome and edible because *sometimes* capable of supporting life. But every medical man and every chemist knows that to appraise food and food-stuffs in this manner and to assume that all edible material will travel equally well, keep equally well, and produce equally nutritive results, is ridiculous. If the report of the Commission is to supply the country with sound suggestions as to the proper steps to be taken to secure an adequate food-supply in time of war it is necessary that the qualities of the food and food-stuffs, as well as the measures to be adopted to maintain them in conditions of wholesomeness, should come under some discussion. Who is to assist the Commissioners to ask pertinent questions when such matters are on the *tapis*?

We regard the appointment of this Royal Commission as a most important national event and we must not be understood as desiring to thrust medical men into places where their views are not of scientific value simply with the desire to exalt our own profession. We are perfectly aware that such members of the Commission as the PRINCE OF WALES, with the experiences of his grand tour fresh upon him; as Sir ALFRED BATEMAN, Comptroller-General of the Commercial, Labour, and Statistical Department of the Board of Trade; as Colonel MONTGOMERY, President of the Liverpool Corn Trade Association; as Mr. J. E. STREET, the chairman of Lloyd's; as Admiral NOEL, the Duke of SUTHERLAND, Sir J. COLOMB, and Mr. CHAPLIN, can speak with vastly more authority than any medical man upon the broad questions. But the Commission will require, or ought to require, accurate information from witnesses upon details no less than upon broad questions, and some of those details will not be understood by any but men of exact knowledge with regard to dietetics and the nutritive value and chemistry of food-stuffs. If no evidence is sought upon such matters by the Royal Commission it will be tendered by witnesses none the less, because they will find it germane to the larger subjects: and its value will not be appraised. The Commission is provided, in the person of Dr. ERSKINE HOLLAND, with a professor of international law to speak as to the possible neutrality of food-carrying vessels; it is provided with an expert in banking to advise about violent fluctuations of prices; a practical farmer and a labour member of Parliament both are present, but there is neither medical man nor chemist. We think that it should not be too late to remedy the omission. An easy way to transport an ox would be in a tea-cup. An

admiral can say how to guard the tea-cup, a banker can price it, and Lloyd's can insure it, but only a scientific man can say whether the substance in the tea-cup, claiming to be an ox, has the nutritive values of an ox.

Annotations.

"Ne quid nimis."

RITUAL CIRCUMCISION.

THE practice of ritual circumcision is too firmly established among the Jews to be done away with, even if that were desirable, but since the practice exists the operation should be carried out with the care and precautions of modern surgery. It is, however, frequently performed so unscientifically and so carelessly that the number of cases in which harmful results ensue is by no means small. It is true that these serious complications are most frequently seen in foreign countries, but of recent years East London and other parts of England have been so overrun with swarms of low-class foreign Jews that, as we might expect, we are meeting with similar results in this country. The chief dangers resulting from the operation of circumcision are hæmorrhage, sepsis, syphilis, and tuberculosis. Hæmorrhage is fairly readily controlled by pressure and should never prove fatal, except perhaps in cases of hæmophilia. Many instances have been recorded of fatal hæmorrhage occurring after circumcision in families of "bleeders," even though the umbilical cord has separated without any loss of blood. In one family four deaths occurred from this cause. In all these cases the tendency was inherited, as is usual in hæmophilia, through the mothers. In hæmophilic families it would be well to omit the performance of this rite. Sepsis is another important complication of ill-performed circumcision, but it is readily avoided by ordinary surgical methods. Fatal cases from sloughing and ulceration have been described. The other chief complications of circumcision are syphilis and tuberculosis and the inoculation of these diseases is chiefly due to an unpleasant method sometimes employed for stopping hæmorrhage. The bleeding surface is taken into the mouth of the operator and sucking tends to arrest the bleeding. The practice, perhaps, dates from the time when sucking any bleeding wound was looked upon as a suitable method of hæmostasis, for it is said to be no part of the rite as originally performed. However this may be the practice is in many respects highly objectionable. Even if we put aside as irrelevant in this connexion the æsthetics of the method, yet the dangers are by no means small. In numerous instances syphilis and tuberculosis have been inoculated. The proofs are beyond cavil. The syphilitic manifestations have appeared in a group of children all circumcised by the same operator. There have been evidences of the primary sore and, chief proof of all, these children have in most cases affected their mothers who suckled them. There is equally certain evidence of the transference of tuberculosis. For instance, an epidemic of tuberculous disease of the inguinal glands has been found to occur in children circumcised by a rabbi affected with a tuberculous ulcer of the tongue. In one case in which the wound was not sucked syphilitic infection occurred from the operator whose mouth was affected ejecting wine from his mouth over the wound. It will be said that the practice of sucking the bleeding surface has been practically abandoned in this country. This is certainly true of the operation as performed amongst the better-class Jews, but the immigrating alien is generally less advanced and the practice still continues. Our attention has been drawn to the present state of ritual circumcision by a letter from Mr. M. Russell-Rubens who is the secretary of a society called the "Covenant of Abraham (Circumcision) Society," the object of which is to advocate that all circumcisions should be performed by a qualified medical man or under his immediate supervision, and the society hopes "to apply to Parliament to pass an Act safeguarding the lives and health of infants from the evil consequences of circumcision." Mr. Russell-Rubens points out that at present there is a large number of Russian and Polish Jews in London who were barbers or sweepers in their own country but who have taken to circumcision as a means of livelihood "with no qualification but extreme ignorance and filth." These Mohelim (circumcisors) dub themselves "Reverend" and proceed to practise without the authority of the Chief Rabbi who is supposed to appoint all operators. A discussion has recently been going on in the columns of the *Jewish World* as to the merits or demerits of these Mohelim and some of the latter have endeavoured to support their claims by asserting that qualified medical men have invited them to perform circumcision upon their Gentile patients, both adults and children. We have no means of verifying such an extraordinary claim but we have very positive evidence that one medical man at least does countenance them, for in the advertisement columns of the *Jewish World* we find an advertisement which contains a "testimonial" in favour of seven members of the London Mohelim Association. It is signed by a medical man who appends his qualifications "L.R.C.P.S. and L.F.P.S.G." It states that he has seen these seven members perform the operation of circumcision and that he has much pleasure in testifying to the ability displayed by each of them. Of course, it is possible that the advertisement was inserted without this gentleman's knowledge but that would not excuse the giving of such a certificate. Another advertisement in the same journal states that "surgical cases" are "attended to in Gentile families." We have said enough to show that circumcision as now practised is often performed in a careless manner, that there are many serious complications which may occur, leading to severe disease or even a fatal result, and that many of those who perform this rite are utterly unfitted by training for such a duty. We maintain that, since circumcision is an operation, it should always be performed by a duly qualified surgeon, or at least under his direct supervision. In no other way is it possible to have all the benefits of modern surgical practice.

DISHES FOR INVALIDS IN HOTELS.

HOTEL life is becoming much more common in London than it was 20 or 30 years ago. Whether the increased comforts to be obtained at hotels are the cause or the effect of this is a difficult question to answer, but there is no doubt that hotel managers are much more attentive than they were formerly to the comfort of their clients. We have recently received from Claridge's Hotel a little invalid menu and book of recipes for dishes suitable for invalids drawn up by Mary Nugent. These dishes are in use, not only at Claridge's Hotel, but also at the Savoy and the Berkeley Hotels. We think that this is a decidedly good move on the part of the hotel authorities, for the ordinary hotel menu is not suitable for an invalid requiring a light diet. The menu comprises broths, vegetable *purées* and soups, either *maigre* or with a veal or chicken stock, light dishes, such as soufflés, simple puddings, and such things as real calf's-foot jelly, lemonade, plasmon tea, and various cereal preparations. The recipes are simple and very good, but the last one is singularly cryptic: "Heat the teapot with boiling water, put in tea, then put one dessert-spoonful of plasmon on the dry tea-leaves; pour on boiling water (while boiling). The water must not have boiled previously."

We suppose that this last sentence means that the water must not have been boiling for any length of time previously, but there is certainly an Alice in Wonderland flavour about the paragraph as it stands. With this reservation, however, both the recipes and the system which gave them birth are to be highly commended. We may add that those persons, and there are many, who dislike "milky puddings" will find that freshly made bread sauce, eaten either hot or cold, is a most palatable substitute.

THE PARENT AND VACCINATION.

A CURIOUS dispute between a public vaccinator and the parents of a vaccinated child has recently been terminated by a special meeting of the board of guardians of the locality. The facts proved were as follows. One of the public vaccinators at Derby was informed that three children had been found suffering from small-pox in a street in that town. He went at once to the house and was told by the mother whom we will call Mrs. S., that a neighbour, Mrs. F., had been to the house on the previous evening and had also called that morning and had then inquired if Mrs. S. was going to be vaccinated. The public vaccinator proceeded to Mrs. F.'s address, meeting on the way the sanitary inspector, who accompanied him. Mrs. F. said to the inspector, in answer to a question as to what she was going to do about vaccination, "You know what my husband said last night." To this the inspector replied, "Yes, he was undecided"; and the medical man made the observation. "Well, you are running a great risk, you know. You had better be vaccinated." He then vaccinated Mrs. F. and her two-year-old child who he afterwards learnt had been in contact with Mrs. S.'s children, actually eating from the same plate as the infected children. Mrs. F.'s husband upon his return seems to have been extremely angry with his wife for permitting his child to be vaccinated and with the public vaccinator for performing the operation. The complaints which he made appear to have found support among the local anti-vaccinationists and had as their result the inquiry to which we have referred. It was alleged that Mr. F. had told the inspector that he refused to have his child vaccinated; that the public vaccinator knew of his objection; and was further informed of it by the wife who asked him to wait until her husband came home for his dinner; that he refused to do this; and further that he coerced and frightened her into consenting to her child being vaccinated by saying that she ran the risk of a fine as well as of small-pox. This story was distinctly inconsistent with the account given by the public vaccinator of what took place, and although his narrative was obviously the more probable version and his word was no doubt sufficient to convince many of his hearers, he was at the same time fortunate in having had with him a third person who was able emphatically to corroborate him in every particular. At the conclusion of the inquiry a resolution was carried by 31 votes to 1:—

> That in the opinion of this board the public vaccinator did not exceed his duty, that he is entirely exonerated from blame, and we consider that the charge against him is not proved.

In commenting upon the story which we have recounted the *Derby Express* sums the matter up by saying: "The incident throws an unpleasant light upon the difficulties which medical men have to fight in order to preserve the community from the scourge of small-pox," an expression of opinion in a lay newspaper which we cordially indorse. Before, however, the inquiry into the actual facts of the case before them was held an interesting discussion took place among the Derby guardians as to the duties of a public vaccinator in a case where to his knowledge a father objects to the vaccination of a child and the mother desires it. This question appears to have been raised on a previous occasion at a Local Government Board inquiry at Derby and a dictum of the president of that inquiry was quoted to the effect that no medical officer should vaccinate a child when the father objected "unless the mother gave him permission in writing." The Vaccination Acts speak always of "the parent," without specifying father or mother, and we observe that at the Local Government Board inquiry referred to it was also said that "the 'parent' is the father of the child when the father is alive." This is certainly in conformity with the usual view, assuming that the father has the child in his custody and control. In cases, however, where the mother summons the public vaccinator to vaccinate her child, or produces the child for him to vaccinate, he can hardly be expected to inquire whether she has her husband's authority to do so or not, nor should he be exposed to blame if, in such circumstances, he infers that he has "the parent's" sanction for his act. Let us, on the other hand, imagine a case in which the father has distinctly informed the public vaccinator, or any other medical man, that he absolutely refuses to sanction the vaccination of his child, and the mother, without any deception or concealment, asks the practitioner in question to vaccinate her offspring although her husband disapproves. In such a case as this we should say that the medical man, whether public official or not, would be well advised if he declined. We are not aware of any case having occurred which would illustrate what the ultimate consequences of his act might be, but the incident which we have described at Derby shows to some extent the kind of worry and annoyance to which he would undoubtedly be subjected.

PRESCRIBING IN THE LAY PRESS.

WE have frequently had occasion to comment severely on the baneful practice existing very widely in a certain class of newspaper of prescribing for such of their readers as are sufficiently credulous or ignorant to confide themselves to the therapeutic skill of the editorial staff. In such cases the diagnosis itself cannot but be doubtful, for it depends entirely on the patient's description of his symptoms, and the prescription can only be "a bow drawn at a venture." There is yet, however, a greater danger, the prescription is peculiarly liable to printers' errors and a very slight change in the dose prescribed may obviously have very important results. Of recent years there have appeared many penny weekly papers especially intended for ladies and nearly every one of these has a page in which advice is given on the mysteries of cosmetics. Much of the counsel offered is useless, even if harmless, but unfortunately the writers of these articles do not confine themselves to prescribing simple substances, but treat of the most dangerous drugs in an offhand manner which can only be accounted for by ignorance of their dangerous properties. A very typical example has recently come to our notice. There is a weekly paper called *Forget-me-Not*, intended for the perusal of girls, and a page is devoted to "boudoir gossip," where prescriptions for lotions and ointments are freely given. On this page in the issue of April 18th we find two flagrant instances of careless newspaper prescribing. In the one case a correspondent requires "a cure for pimples" on the forehead. She is told to "make up the following lotion and use frequently: One drachm of hydrocyanic acid, three drachms of glycerine; add enough water to make half a pint." There is not a word of warning as to the poisonous nature of hydrocyanic acid and nothing is said as to care in the custody of this lotion. It is by no means improbable that the patient, finding the "pimples" did not disappear, would augment the strength of the lotion in order to obtain a better result, until poisoning might be produced. Of course it will be said that in such a weak lotion as prescribed the hydrocyanic acid would be almost harmless, but even if

this were so such a lotion should not be prescribed in lay papers. It might be thought that it would be impossible for the patient to obtain for herself the ingredients of this prescription but we fear this is not so. In spite of the Act poisons as virulent appear to be readily obtainable by the public. On the same page is given a prescription which can only be described as dreadful. A "Despairing One" asks, "Is there any remedy for enlarged pores?" and she is told *inter alia* to "make up the following ointment and apply to your face every night: one drachm of ointment of zinc, one ounce of nitrate of mercury, and four drops of creosote." The only pharmacopœial preparation to which the name nitrate of mercury can be applied is the liquor hydrargyri nitratis acidus, a most caustic application, so that if the prescription were dispensed as written a violent escharotic would be applied, with results horrible to contemplate. The paper would seem to be well named *Forget-me-Not*, for no one who essayed this treatment would ever forget the source whence it proceeded. Possibly the writer intended to advise one of the ointments of nitrate of mercury, but the prescription gives no hint to this effect and we cannot but take it that the risk of the prescription being used as written is very great. No pharmacist would dispense it as it stands, but there is always a chance that the recipient of this advice may prepare the application herself. Lifelong scars might be the result. It is from no feeling of professional jealousy that we draw attention to these unpardonable mistakes but from a conviction that all such uneducated and haphazard prescribing, even for cosmetic purposes, can rarely succeed in benefiting those who take the advice and may result in irremediable damage or may even lead to a fatal issue. We have referred particularly to one publication but it must not be imagined that the paper mentioned is necessarily a greater sinner in this respect than its contemporaries; they all err in venturing to undertake functions for which they are not fitted and we earnestly advise them to reconsider their position.

OPERATIVE TREATMENT OF FRACTURED PATELLA.

WIRING a fractured patella was suggested by Severini and seems to have been first practised in America by Rhea Barton, and a little later in this country by Cooper, but the results were unfavourable, two out of five patients dying; these results naturally led to the abandonment of the operation. After the introduction of antiseptic surgery wiring the patella was performed by Cameron of Glasgow and the operation has attained a wide popularity. The methods of wiring employed are numerous. Most commonly a single wire unites the broken edges but does not invade the posterior surface of the bone. Mr. A. E. Barker has employed a method in which the wire passes vertically all round the bone, one portion lying between the patella and the femur and the other in front of the patella. Circumferential wiring has also been done, and in this form the wire passes round the margin of the bone, piercing the tendon of the quadriceps above and the ligamentum patellæ below. All these methods give good results and the individual predilections of the surgeon usually determine the form which he adopts. In THE LANCET of April 18th, p. 1101, we published an account of wiring a fractured patella by Mr. B. C. Stevens of Mexborough, who urges that to obtain the best results two wire stitches should be employed, chiefly in order that passive movements of the knee-joint may be commenced early and thus stiffness avoided, but also because the two stitches hold the fragments together much more firmly than does a single wire. There is much to be said in favour of the double wiring and many surgeons employ it habitually, for a single wire has been known to give way, but the results of all the methods of wiring are excellent if asepsis be maintained.

MEDICO-LEGAL ASPECTS OF DEATHS UNDER CHLOROFORM.

AN action involving important issues has recently been decided in a Scotch court of session before a judge and jury. The facts as stated by the claimant were briefly as follows: Andrew Gillies, the claimant's late husband, suffered from some injury to his arm as a result of which adhesions had formed. He decided, after consultation with his own medical adviser, Dr. John Cunningham of Stewarton, to have an operation performed to remedy this. The widow further stated that although the deceased had taken a hearty meal—his tea—and in spite of his expressed reluctance, he was without any adequate preparation taken by Dr. Cunningham into a room and given chloroform. The man was placed on a couch and told to inhale the drug from a folded towel held by the medical man. He counted aloud to 30; the operation was performed and simultaneously Andrew Gillies appeared to have died from syncope. The only other persons in the room were the son of the deceased and another youth. In spite of artificial respiration consciousness never returned, nor indeed was there any appearance of revival. Upon the opposite side the evidence of Dr. Cunningham and Dr. J. C. Taylor, who was summoned when artificial respiration failed to resuscitate the man, was that Dr. Cunningham operated at the time he did at the express desire of the deceased and that he was under the impression that all necessary precautions as to diet, purgation, and so on, had been duly taken. As the learned judge in his charge to the jury said, the evidence upon certain plain matters of fact was absolutely divergent. The jury found for the defendant, Dr. Cunningham, so that Mrs. Gillies's plea for £1000 damages failed. The difficulties and exigencies of country practice add greatly to the anxieties incurred when an anæsthetic has to be administered, since from their very nature many precautions, and in many cases assistance, have to be dispensed with. When, however, it is realised that any practitioner may be called upon to face such charges as the one Dr. Cunningham had to meet too much care cannot be taken or too much importance attached to the use of so powerful a drug as chloroform. It was urged at the trial that the deceased refused to incur the expense of the services of a second medical man as "the operation was so slight." But surely any reasonable person can be made to understand that however trivial may be an operation the inhalation of chloroform involves the same risks whatever may be the surgeon's work. In self-defence no medical man should consent to risk his patient's life and his own professional reputation by undertaking both to give chloroform and to operate. In view of the gravity of the issues involved medical men will in every case be well advised if, besides explaining what preparations are necessary before chloroform is inhaled, they will actually see that their instructions are carried into effect. We do not, of course, call in question any accepted method by which chloroform is given, but we may perhaps urge that at the present time, when chloroform is known to be dangerous in proportion to its concentration, the most precise methods should replace those which permit of the use of unmeasured doses. We congratulate Dr. Cunningham upon the only issue of the case which the circumstances warranted. But the evidence in this case possesses points of further interest. Several experts were called—Scotchmen presumably versed in the teaching of Syme and his following—and their *obiter dicta* are at once interesting and instructive. Professor Carstairs C. Douglas (Glasgow) is reported to have estimated the mortality from chloroform as 1 in 2000, although he

regards such fatalities as "uncommon occurrences." He stated that the essential cause of death was "syncope" and not asphyxia. Professor J. Glaister of Glasgow, speaking of his experience, stated that he had performed 30 examinations of bodies of persons who had died under chloroform within the last five years. In his view also death arose from cardiac syncope. This conclusion was the same as that at which Dr. Joseph Bell of Edinburgh arrived and in cross-examination Dr. Bell is further reported to have said that the too rapid administration of undiluted chloroform acted as a poison to the circulation and caused "syncope" and sudden death. Professor H. Galt of Glasgow was even more emphatic. In 13 post-mortem examinations which he had made on persons dying under chloroform he found every one had died from cardiac "syncope." We thus have admitted 43 necropsies upon persons dying under chloroform within one district of Scotland—a fact which appears almost to justify the assumption that even the methods employed north of the Tweed cannot be relied upon to avert what we have always impressed upon our readers is a danger whenever chloroform is used and whatever is the method pursued. It is matter of history, although history like other branches of learning is at times neglected in controversies, that Simpson believed and taught that chloroform killed in certain cases by causing circulatory paralysis, or, as he put it, by syncope. It is, however, not always recognised in London that the authorities on toxicology in Scotland accept Simpson's and reject Syme's teaching upon this important point. In conclusion we must draw attention to a portion of the admirable charge of the Lord Justice Clerk. In substance he said that the law in such cases was that a person was not liable in the exercise of his profession for a mere mistake or mere failure in some detail which might cause injury to another. To establish a claim there must be what in Scotland is called gross negligence, in England crass negligence. This is a clear statement of what is a matter of supreme importance to medical men. In the present state of our knowledge and in view of the imperfection of our anæsthetic appliances it cannot be too clearly put that a fatality under an anæsthetic need not, and we hope never is, the direct result of the carelessness or incompetence of the administrator and therefore does not place him in danger of being mulcted in damages for a calamity as terrible to him as to all others concerned. There is one more point. Much stress was laid in the claimant's pleading that the medical man had not in his possession at the time of the accident strychnine or ether to be used in emergency. It is certainly well worthy the consideration of all practitioners who undertake the duties of an anæsthetist that they should never be unprovided with such instruments and drugs as may in an emergency be required and which in some cases may turn the scale in the patient's favour.

MUNICIPAL INFANT MILK DEPÔTS.

THERE is no doubt that if the excellent system of providing municipal depôts for the supply of wholesome milk and milk of standard composition for the use of babies were universally adopted infant mortality would be enormously reduced. The experience of such places as St. Helens, Liverpool, and Ashton-under-Lyne, where such an experiment has been made, affords pretty conclusive evidence in favour of this view. A similar undertaking was begun in 1901 by the Battersea borough council and we have recently received a copy of an interesting report of the medical officer of health, Dr. G. F. McCleary, dealing with the working of this infants' milk depôt since its opening on June 5th, 1902, to the end of the year. The method adopted is that initiated by Dr. Léon Dufour at the Goutte de Lait, Fécamp, and consists in supplying sterilised cow's milk brought as near as possible to the composition of human milk in stoppered bottles, each bottle containing sufficient food for one meal and no more. The number of children being fed with this milk at the present time is about 360. Dr. McCleary puts forward evidence of two kinds that the Battersea depôt has justified its existence. Firstly, there is the testimony of medical practitioners who have had practical experience of the effect of the milk and, secondly, there is the evidence of statistics, though, as he adds, it is doubtful whether the full value of the work of the depôt can be expressed in figures. Taking all things into consideration, however, there can remain very little doubt of the influence for good gained by the adoption of the scheme. Thus from one table it would appear that the mortality of infants in the borough during the last six months of 1902 was 87·5 per cent. higher than the mortality in the depôt-fed children, whilst taking the mortality in east and north-west Battersea only the difference is no less than 103 per cent. We congratulate the borough council on taking this excellent step, showing as it does results of the highest hygienic importance and it is to be hoped that other municipal authorities will follow such a good example.

GREY'S HOSPITAL, PIETERMARITZBURG.

WE have received a pamphlet of 46 pages containing newspaper comments and correspondence with reference to the movement for the reorganisation of Grey's Hospital, Pietermaritzburg, which movement was commenced by the Pietermaritzburg Medical Society at a meeting held on August 12th, 1895. This society then passed a resolution in favour of allowing medical men to attend such of their patients in Grey's Hospital as desired their services instead of its being compulsory on such patients to accept the medical superintendent of the hospital as their medical attendant. This resolution was sent to the board of trustees for the control and management of Grey's Hospital, but the board's reply, which was received on Dec. 6th, 1895, was unfavourable. On August 4th, 1896, the society again communicated with the board, recommending (1) the promotion of the medical superintendent to the status of honorary consulting physician and surgeon and the appointment by the board of four or more additional honorary physicians and surgeons; (2) that the board of trustees should apply to the general public for additional funds for the hospital; and (3) that private paying patients might at their own cost have their own private medical men to attend them at the hospital, and also that nurses should be trained for attendance on patients at their own homes. This recommendation was referred to the Colonial Secretary in Natal who, on March 11th, 1898, replied stating that the proposed arrangement was not desirable under the present system of management of Grey's Hospital and that the Government saw no sufficient reason for any further representation to the board of trustees on the subject. On May 14th, 1901, the society (which had by that time assumed its present name of the Pietermaritzburg Branch of the South African Medical Association) petitioned the Governor of Natal making a variety of suggestions for the reorganisation of the hospital, some of them being that visiting physicians and surgeons should be appointed, that their term of office should be five years, that those patients who can pay ordinary medical fees should be in a separate ward and should have the privilege of being attended by their private medical man, that the training of nurses should be undertaken, and that the medical staff should be allowed to select two of their number to sit on the board of management. On Sept. 10th, 1902, a meeting, presided over by Mr. S. J. Mason, mayor of Pietermaritzburg, was held, at which a resolution was

adopted embodying various recommendations, two of them being to the effect that the public should be invited to subscribe to the funds of the hospital, and that a complete scheme should be drawn up either for a new hospital or for enlarging the present one. A building fund was at the same time established and on Nov. 3rd a conference was held between the hospital board and a deputation from the building fund. The deputation inquired whether the hospital board would be willing to receive the assistance and coöperation of the executive committee of the building fund in the matter of providing a new hospital and whether the board would agree to its constitution being so altered as to admit of representatives of subscribers to the building fund having a voice in the management of the hospital. The board in reply passed a resolution as follows :—

> The board welcomes the coöperation and assistance of your committee but regret that they cannot accede to the request for the following reasons: (1) the constitution of the board was not a matter for the board to consider but was a matter for legislature; (2) the board sees no adequate public reason for a change in its constitution.

It may here be explained that the board which at present manages the hospital is elected partly by the town council and partly by Government, the Government contribution in aid of the expenses being £5000 a year. The local press speaks strongly in favour of the proposed reforms and reorganisation which are naturally supported by the medical men of the district. The medical members of the executive committee of the building fund are Dr. D. Campbell Watt, Dr. O. J. Currie, and Dr. W. Russell Strapp. Commenting on the present position of the controversy the *Natal Witness* of March 6th says: "We believe the desire and the intention of the Government is to place the hospital completely in the hands of one man who shall be directly responsible to them and to make of it yet another hide-bound Government institution in regard to which the public voice will stand for naught. ..... Under the scheme which the Government and the present dutiful board have in mind local practitioners will be precluded from visiting the hospital, which would be conducted on even narrower lines than hitherto."

THE PREVALENCE OF SMALL-POX.

A TELEGRAM from Barbados received at the Colonial Office on April 14th states that there has not been any further case of small-pox in Barbados since April 4th. In accordance with the provisions of the Quarantine Act clean bills of health are being issued. The Bradford and West Riding Medico-Ethical Union at a recent meeting approved of the following memorial to the President of the Local Government Board :—

> That in the opinion of your memorialists it would lead to the extension of the practice of vaccination in this country if Parliament were to enact that every duly qualified medical practitioner shall be put on the same footing in regard to the practice of vaccination as that on which public vaccinators now are. It is well known to your memorialists that many adult persons who refuse to visit the public vaccinator would have their children vaccinated and would be themselves revaccinated if this could be done free of cost to themselves by their regular medical attendant.

The Lancashire County Council has issued as a circular some admirable advice extracted from the report of the county medical officer of health dated April 16th. The portion extracted lays down the necessity of obtaining medical advice as early as possible and points out that vaccination and revaccination are the only means by which a person can defy small-pox. At the meeting of the Brantham rural district council held on April 14th a case of small-pox was reported from Barrowby. The case was that of a man who had been employed to clean a house from which a small-pox patient had been removed. The Barrowby man was an anti-vaccinationist but said that he was not afraid. However, he very soon sickened with small-pox. The Local Government Board for Scotland intimates that during the period from April 1st to 15th inclusive 3 cases of small-pox have been notified to it from the burgh of Dundee, 2 from the burgh of Leith, and 1 from the burgh of Brechin.

A MEDICAL CORONER FOR MANCHESTER.

WE understand that Dr. G. H. Darwin of West Didsbury, Manchester, is a candidate for the appointment of coroner for the city of Manchester which has been rendered vacant recently by the death of Mr. Sidney Smelt. Readers of THE LANCET know how persistently we have advocated the appointment of medical coroners—indeed, the movement to secure this office for a medical man had its origin 40 years ago in our columns. The coroner's inquest is an inquiry into the cause of death and in a very large percentage of cases the medical evidence as to this cause is the only evidence really essential to the finding of a true verdict. Surely a medical coroner can elicit such evidence from a medical witness and can instruct a jury upon its value in a manner that no layman, however skilled in the rules of evidence, can possibly do. We wish Dr. Darwin every success.

THE ASSOCIATION OF CERTIFYING FACTORY SURGEONS.

THE annual meeting and dinner of the Association of Certifying Factory Surgeons is to be held at the Hotel Cecil, London, on Friday, May 22nd. It is intended to make the dinner the occasion of a notable gathering of authorities on factory and workshop legislation and administration and it is expected that many Members of Parliament, Government officials, and persons prominent in dealing with labour questions will be among the guests. Mr. A. Akers-Douglas, the Home Secretary; Mr. Cochrane, the Parliamentary Under-Secretary; and Sir Kenelm Digby, the Permanent Under-Secretary of the same department; Sir John Batty Tuke, M.P., and Sir Charles Dilke, M.P., are among those who have already accepted invitations. In addition to the official guests many members of the association have expressed their intention to invite as private guests the Members of Parliament of their own particular districts. In this way a representative gathering should be secured.

CONTRACT PRACTICE IN THE COUNTY OF DURHAM.

A STRUGGLE which commenced just four years ago is still going on in the county of Durham, where an energetic medical union is striving to obtain an increased rate of remuneration for medical attendance on the miners and other workmen in the county. At some collieries there has been strong opposition to the increase of rates of payment to the medical men and the miners by advertising in the lay papers have been able to persuade medical men to accept appointments on the lower terms, thus ousting the previous medical men. A circular issued in March, 1899, by Dr. Edward Jepson, President of the Durham Medical Union, ran as follows :—

> We trust to the dignity and uprightness of our brethren in the profession that they will not take advantage of the offers made by the miners but in every way support this effort to obtain what is just.

To some extent this circular met the point, but certain medical men have, however, been found to fall in with the miners' views. A strong letter in our present issue from Dr. Jepson points out that the position of these men cannot be recognised by the medical union even if the miners should raise their salaries to the sum demanded by the union. They hold their posts by accepting terms which their predecessors have refused and they cannot again come

into professional line with other medical men until they have resigned their appointments and the original holders of those appointments have been offered them upon the just terms demanded by the union.

AN EXTRAORDINARY CRAZE.

AT an inquest held at New Delaval, Newcastle-on-Tyne, upon the body of a girl aged 18 years, the daughter of a miner, the medical evidence showed that the deceased had been attended before death when suffering from acute dyspepsia and a post-mortem examination revealed perforation of the stomach and septic peritonitis. This condition was attributed by Mr. T. Gallacher to the deceased having eaten large quantities of raw rice, and he expressed himself desirous of calling attention to a practice prevailing among women in the district of eating uncooked rice, starch, and oatmeal for the purpose of producing a pale appearance of the face. An interesting pallor is apparently considered more becoming among the Tynesiders than the roses popularly associated with female beauty among persons less modern and refined in taste, but it would be instructive to know how the horrible process of arriving at pallor by first producing dyspepsia with raw cereals had its origin. A number of periodicals devoted to subjects of interest to women contain columns dealing with such subjects as "Health and the Toilette." Can the author of any of these have put it into the heads of vain girls that paleness was to be desired and advised that it should be compassed by the means which caused the death of the miner's daughter in question? If so it seems a pity that a trial for manslaughter cannot follow.

TWO CASES OF STRAMONIUM POISONING.

IN the *Berliner Klinische Wochenschrift*, No. 51, 1902, Dr. Knaut of Klaushagen records two cases of poisoning by the leaves and seeds of Datura Stramonium. A five-year-old girl, the daughter of a labourer, was taken to Dr. Knaut by the parents with the history that she and a younger sister, while playing at "doctor and patient" with several other children, had both been given leaves and seeds of Datura. Some time afterwards both children were attacked with convulsions and the parents went at once with the elder child, leaving the other unconscious at home. Dr. Knaut at once dispatched the father to this latter child with an emulsion of ipecacuanha and tartar emetic, with instructions to administer small doses until vomiting was induced and then to return with this child also. In the meantime he devoted himself to the treatment of the elder girl who lay unconscious on the lap of the mother, with widely dilated pupils and absent corneal reflexes. The face was red, hot, and dry, the pulse-rate was from 150 to 160 per minute, weak and easily compressible but not intermittent, and the breathing was from 55 to 60 per minute and of Cheyne-Stokes character. About every eight or ten minutes clonic spasms of the whole body recurred, lasting between two and three minutes. On questioning the mother it was found that two and a half hours had elapsed since the child ate the poisonous material and that two hours previously she had eaten a heavy dinner. Dr. Knaut injected half a syringeful of a 1 per cent. solution of apomorphine hydrochloride, followed two minutes later by three-quarters of a syringeful, and at the same time gave rectal injections of dilute vinegar. Shortly afterwards copious vomiting resulted and in the vomit there were numerous leaves and collections of the seeds of Datura Stramonium enveloped in mucus. The clonic spasms then gradually lessened and a somnolent condition supervened, but the pulse-rate and breathing did not improve, and after about 20 or 25 minutes the clonic spasms recommenced. A further injection of apomorphine was given and a quantity of mucus with numerous seeds was brought up. The child then became quieter and regained consciousness and was able to swallow some coffee with brandy added to it. This, together with injections of ether and camphor, caused considerable improvement in the condition of the heart-beats. After this the child slept for several hours, during which the rate of breathing was from 28 to 30 per minute. On awaking she complained of great thirst. The other child had taken much less of the poison and after the administration of the emetic and the resulting vomiting of the leaves and seeds she rapidly recovered. On the following morning both children were playing and were apparently very little the worse for their experiences.

THE QUESTION OF THE COMMUNION CUP.

UPON many previous occasions—e.g., in THE LANCET of Oct. 13th, 1900, p. 1088—we have referred to the risks of infection attendant on the use of a common chalice at the administration of the Holy Sacrament. In THE LANCET of Nov. 10th, 1900, p. 1364, we said: "We may yet hope to see the Ordinaries of the respective dioceses giving directions to their clergy by means of which the weaker brethren may be saved from offence." The *Church Times* of April 9th states that a notice has been placed in the English church at Davos, where most, if not all, of the communicants are tuberculous, which calls attention to the fact that by permission of the Bishop acting for North and Central Europe the Holy Communion will be administered in both kinds at once by "dipping pieces of bread into the consecrated wine and placing the same in the mouth or on the hand of each communicant." The wording of the notice is, perhaps, a little loose, but, nevertheless, the intention is good. We have previously advocated the allowing of "intinction" and now that one bishop has allowed it we hope to see others follow suit. At such seasons as Easter, when the churches are thronged with communicants, such a modification of the strict letter of the Prayer-Book would avoid a widespread risk and would, moreover, lighten the labours of many a hard-worked parish priest, work which when some 800 or 1000 persons communicate is very heavy.

INORGANIC FERMENTS.

A REMARKABLE analogy exists between the action of enzymes and of metals in the colloidal state and so much so as to have given rise to the description of the latter as inorganic ferments. If the metals platinum, gold, silver, cadmium, and iridium are reduced to such a fine state of division that they remain suspended in the water in the form of a solution—that is, of a colloidal solution—they bring about changes when in contact with other substances which closely resemble the changes due to the action of an enzyme. For example, a colloidal solution of platinum accelerates the oxidation of alcohol to acetic acid and finely divided iridium will decompose calcium formate into calcium carbonate, carbon dioxide, and hydrogen in the same way as do certain organisms. Further, finely divided metal will effect the inversion of cane sugar and colloidal solutions in the same way will decompose peroxide of hydrogen after the manner of the enzymes in the blood. Probably the action in both cases is what is known as catalytic. Perhaps, however, the most remarkable thing of all is that this action of metals in colloidal solution is retarded by the presence of strong poisons. In this way the colloidal solutions of the metals behave exactly like the enzymes of the blood. The action of the ordinary enzymes is very readily interfered with by the presence of certain poisons and, strange as it may appear, it would seem to be possible to poison, so to speak, the finely divided metals in a similar way. Colloidal platinum,

for example, readily decomposes peroxide of hydrogen in the same way as does blood, but the action almost ceases when sulphuretted hydrogen is present, iodine, mercuric chloride, or some other well-known poisonous substance. The only explanation of this similarity of action is that finely divided metals in the colloidal state present enormously developed surfaces and that the same condition exists in the enzyme. In a word, the similarity of action is due to intense surface energy and so-called catalytic action is set up. The scientific world is at the present time troubled with "the mystery of radium," but there is an equal amount of mystery in the much longer known phenomenon of catalysis, the eventual elucidation of which is calculated to throw considerable light on the great vital processes.

SALICYLIC ACID IN STRAWBERRIES.

THE strawberry season is at hand and this delicious fruit is not without its advocates as to its advantages in rheumatism. Indeed, some have gone the length to state that strawberries may not only be taken with impunity by the rheumatic and gouty but with distinct advantage if not relief. It is a somewhat curious coincidence, therefore, that in the strawberry the presence of salicylic acid, which is, of course, a specific in acute rheumatism, has been definitely established. As a matter of fact, salicylic acid would appear to be a normal constituent of most fruits. At any rate, this acid has been found not only in the strawberry but in grapes, apples, plums, oranges, and cherries, although the amount is probably less than one milligramme ($\frac{1}{14}$th of a grain) per kilogramme (two pounds) of fruit. It is hardly possible therefore that the strawberry should have any specific medicinal effect attributable to the salicylic acid present. A few weeks back there was recorded in our columns a formidable case of sprue in which strawberries in the diet appeared to act as a specific in the disease. As is well known, most fruits possess anti-scorbutic properties and contain salts which readily become converted into carbonates in the system, thus tending to maintain an alkaline condition and preventing the formation of acid deposits. The fact, however, that salicylic acid exists normally in fruits is of interest in connexion with the use of salicylic acid as a preservative in jams. It is possible that some magistrates may regard this natural occurrence of the acid in fruits as a plausible defence in those cases in which proceedings are taken for the addition of small quantities of the preservative.

THE DISTRIBUTION OF PLAGUE.

As regards the Cape Colony the medical officer of health for the colony states that for the week ending March 28th the condition of the various places mentioned below as regards plague was as follows: At the quarantine station, Saldanha Bay, no fresh case of plague has occurred amongst the crew of the s.s. *Nevasa*. Two patients remain under treatment in the hospital at the quarantine station. At Port Elizabeth 7 cases of plague were discovered—namely, 1 European male, 2 coloured males, and 4 native males (1 of whom was found dead). These cases were discovered on the following dates: 1 on the 22nd, 1 on the 24th, 1 on the 26th, 3 on the 27th, and 1 on the 28th. At the plague hospital, Port Elizabeth, 1 coloured male and 1 native male died during the week; 2 European males, 1 coloured male, and 2 coloured females were discharged cured, leaving 23 patients under treatment. At East London on March 26th a native male was discovered to be suffering from plague and is the only patient at present under treatment at the plague lazaretto. The 2 native males reported last week as suffering from plague have since succumbed to the disease. At King William's Town rats dead of plague have been discovered in the town during the week. At the plague hospital 3 patients remain under treatment. At Graaff-Reinet dead rats continued to be found in the town during the week. At Grahamstown a native male who arrived from Port Elizabeth on March 24th was found to be suffering from plague and died on the same day. As regards Hong-Kong, a telegram from the Governor received at the Colonial Office on April 20th states that for the week ending April 18th there were 51 cases of plague and 47 deaths from the disease.

THE EARLY MORNING AIR.

CHEMISTS have long ago told us not only what is the exact composition of the air, but also that this composition is practically constant, whether the air be that near the mountain top or the sea, or from the country, or of the town. So far, then, chemistry would not appear to offer any explanation of the benefit gained from "a change of air." Similarly everyone knows the sweetness and freshness of the early morning air, attractive properties which disappear as the day advances; but so far as analysis goes the composition of early morning air is not different from that of air at any other time. It is well to remember, however, that during the passing of night to day and of day to night several physical changes take place. There is a fall in temperature at sunset and a rise again at dawn and consequently moisture is alternately being thrown out and taken up again, and it is well known that change of state is accompanied by electrical phenomena and certain chemical manifestations also. The formation of dew has probably therefore far more profound effects than merely the moistening of objects with water. Dew is vitalising not entirely because it is water but because it possesses an invigorating action due partly, at any rate, to the fact that it is saturated with oxygen, and it has been stated that during its formation peroxide of hydrogen and some ozone are developed. It is not improbable that the peculiarly attractive and refreshing quality which marks the early morning air has its origin in this way. Certain it is that the bracing property of the early morning air wears off as the day advances and it is easy to conceive that this loss of freshness is due to the oxygen, ozone, or peroxide of hydrogen (whichever it may be) being used up. The difficulty of inducing grass to flourish under a tree in full leaf is well known and is generally explained by saying that the tree absorbs the nourishing constituents of the soil or that it keeps the sunlight away from the grass and protects it from rain. It is doubtful whether any of these explanations is true, the real reason most probably being that the vitalising dew cannot form upon the grass under a tree, whereas as a rule both rain and light can reach it. Dew is probably essential to the well-being of both plants and animals to a greater extent than is known, and the beautiful expression in the Prayer Book, "Pour upon them the continual dew of Thy blessing," may be remembered in this connexion.

THE medical board of the Mount Vernon Hospital for Consumption and Diseases of the Chest announces that an introductory address will be given by Professor T. Clifford Allbutt on the Causes of Tuberculosis, in the lecture hall at the central out-patients' department, 7, Fitzroy-square, W., on Thursday, May 14th, at 4 o'clock. The address is the first of a series of post-graduate lectures on the prevention and treatment of tuberculosis.

THE duration of Sir Henry Norbury's appointment as Director-General of the Royal Navy Medical Service has been officially extended—a fact upon which we congratulate both Sir Henry Norbury and his department.

THE council of the Royal Institute of Public Health has nominated Professor Antony Roche, professor of public

health in the Catholic University Medical School, Dublin, and examiner in sanitary science in the Royal University, as delegate to attend the International Health Congress to be held at Brussels in September.

THE annual dinner of the Pharmaceutical Society of Great Britain will take place in the Whitehall Rooms of the Hôtel Métropole, London, on Tuesday, May 19th next, at 7 P.M.

THE Paris Société de Pharmacie has elected Dr. D. MacAlister of the University of Cambridge a corresponding member of the Society.

THE FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

(FROM OUR SPECIAL CORRESPONDENT.)

Madrid, April 17th.

STARTING from England, Paris is naturally the first stage on the road to Madrid, and here it must be confessed the Congress news was not encouraging. First of all, the French railway companies had never so much as heard of the International Congress of the Medical Press, but were quite ready for the influx of travellers desirous to attend the Fourteenth International Congress of Medicine. A reduction of 50 per cent. has been promised on the railway fares and is granted, but no congress should ever be satisfied with such an assertion, however correct in the literal sense. It is always necessary to go into details. In this instance the details are numerous and have in some instances proved fatal, for instead of reducing they have considerably increased the expenses incurred. The reduction undoubtedly is granted, but the intending traveller must not only possess all his papers in perfect order but when he presents them at the railway station he is told that they must be countersigned by the secretary of the Orleans Railway Company, not at the railway station, but at the head offices in the centre of the town, and that this will only cover the journey from Paris to Bordeaux. For the rest, from Bordeaux to the Spanish frontier he must obtain the signature of the Midi or Southern Railway Company, which is quite a different company and its offices are in another street. Further, if the intending traveller happened to be a French medical practitioner he was informed that the railway company secretaries would not give their signatures unless his papers were signed by Dr. Brouardel who until recently was dean of the Faculty of Medicine and is going to Madrid where he will preside over the French delegation. As might well be expected, Dr. Brouardel protested vehemently. He was not a clerk that he should be called upon to sign railway passes. It was no concern of his; why should he be expected to certify to the *bona fides* of every French medical practitioner? Such a work would require time and as a result the applications that were made to him involved a delay of at least 24 hours. So many were the complaints thus occasioned that one of the railway officials suggested that it might be avoided by the French practitioners professing to come from the French-speaking provinces of Belgium. It is in consequence of this suggested stratagem that an extraordinary number of members will appear to have arrived from Mons in Belgium. However, and in spite of every effort, it took at least four days to obtain all the necessary signatures. It is true that for the modest charge of one franc an agency undertook to attend to these formalities, but many do not care to trouble an agency from which they are not obtaining hotel and other tickets, and the agency itself was complaining about the amount of unrequited work thus entailed.

Dr. Blondel, as general secretary of the International Association of the Medical Press, has been striving to facilitate matters and has suggested that a special office should be opened at the Orleans station where all the formalities could be gone through at once and on the spot and thus the delay be saved of some four days in Paris. One of the two companies had assented to this when I left Paris. If the other company also agrees then the troubles described will cease to exist. In the meanwhile I had for travelling neighbour on the way southwards from Paris a member of the Congress who had come with his wife from Poland. He entered France at the frontier between Metz and Nancy. There no one knew anything about the Congress and any reduction on the fare was refused, but he did obtain a statement that he had paid full single fare and therefore vaguely hoped that somehow or other he would be allowed to return for nothing. In Paris he was treated most politely, but it took him the full four days to obtain the necessary signatures. During this time he calculates that he spent 250 francs and that the value of the reduction in railway fares that he obtained will amount to 120 francs, so that he is distinctly a loser by the transaction. Further, having thus lost four days he is no longer able to carry out an intended trip to Andalusia before the Congress meets.

Over and above these difficulties the most alarming rumours have been in circulation as to the exorbitant prices of the hotel accommodation in Madrid. My Russian fellow traveller had sent 50 francs to Madrid so that a room might be secured for him; the receipt of the money had never been acknowledged and he had not any idea whether any efforts had been made on his behalf. On arriving in the early morning at Madrid I found the agents at the station talking glibly of 60 and 70 pesetas per day for a room, that 6000 or 8000 members of the Congress were expected, and that there were only 3000 rooms available. In Paris I had been assured that out of 400 French medical practitioners who had enrolled themselves as members of the Medical Congress and had paid their subscriptions, only 160 were really going, the others being deterred by the fear of exorbitant charges and formalities and difficulties. All these rumours have a foundation of truth. There certainly have been difficulties and loss of time incurred with the companies, though this has been obviated by the travelling agencies when employed for that purpose. On the other hand, it is some of these travelling agencies that are, I was assured, responsible for the alarming rumours concerning the prohibitive charges made at the hotels. There are some six hotels at Madrid that are known to the travelling public all over the world. They are cosmopolitan hotels, such as may be found in any large town and where the traveller who, though abroad, wants to change his immediate surroundings as little as possible, will find much the same accommodation as exists in most other parts of Europe. Some agents made a descent upon these hotels and themselves hired the greater part of their rooms. Having thus secured a monopoly and made a "corner" in rooms they ran up the price to fancy figures. At the offices of the Congress I was told that Dr. Brouardel had been asked 200 pesetas per day for a room in one of the well-known hotels. Another delegate, an Englishman I believe, is actually paying 150 pesetas per day for one large room on the second floor in another of these hotels. Had the members of the Congress been able to deal directly with the proprietors or managers of the hotels they would have had to pay more than the usual prices but nothing like such extravagant charges.

All this is the more regrettable as after all there is no difficulty whatsoever in getting rooms and at reasonable rates. The organisers of the Congress appointed a long time ago a special committee to look after this matter under the management of M. Ulrich Frei. Any number of inhabitants of Madrid have been to this committee and offered one or two rooms in their own private houses, and these, together with the hotels and boarding houses that are not known internationally, suffice for all purposes. If it were necessary sleeping accommodation could be found for 10,000 visitors, and even according to the most sanguine expectations there will not be more than about 5000 Spanish and foreign members of the Congress. At the offices on the evening of April 16th the names of 2180 foreign members, who are to be accompanied by 630 ladies, had been inscribed. But it is quite certain that many persons who have paid their subscription will at the last moment alter their minds and not come. On the other hand, there are many others who never intended to come and will join only at the latest hour. According to one of the committee men in charge of the correspondence, &c., the number of members actually present at the Congress, counting both Spanish and foreign members, will not amount to 3000. As already stated the most sanguine scarcely count on more than 5000. Therefore there should be no difficulty about securing rooms and any extortion that has been practised has been due to "rigging the market" and not to any paucity of accommodation. This is a somewhat serious matter. If the representatives of the medical profession cannot meet without giving rise to a sort of conspiracy to extort from them

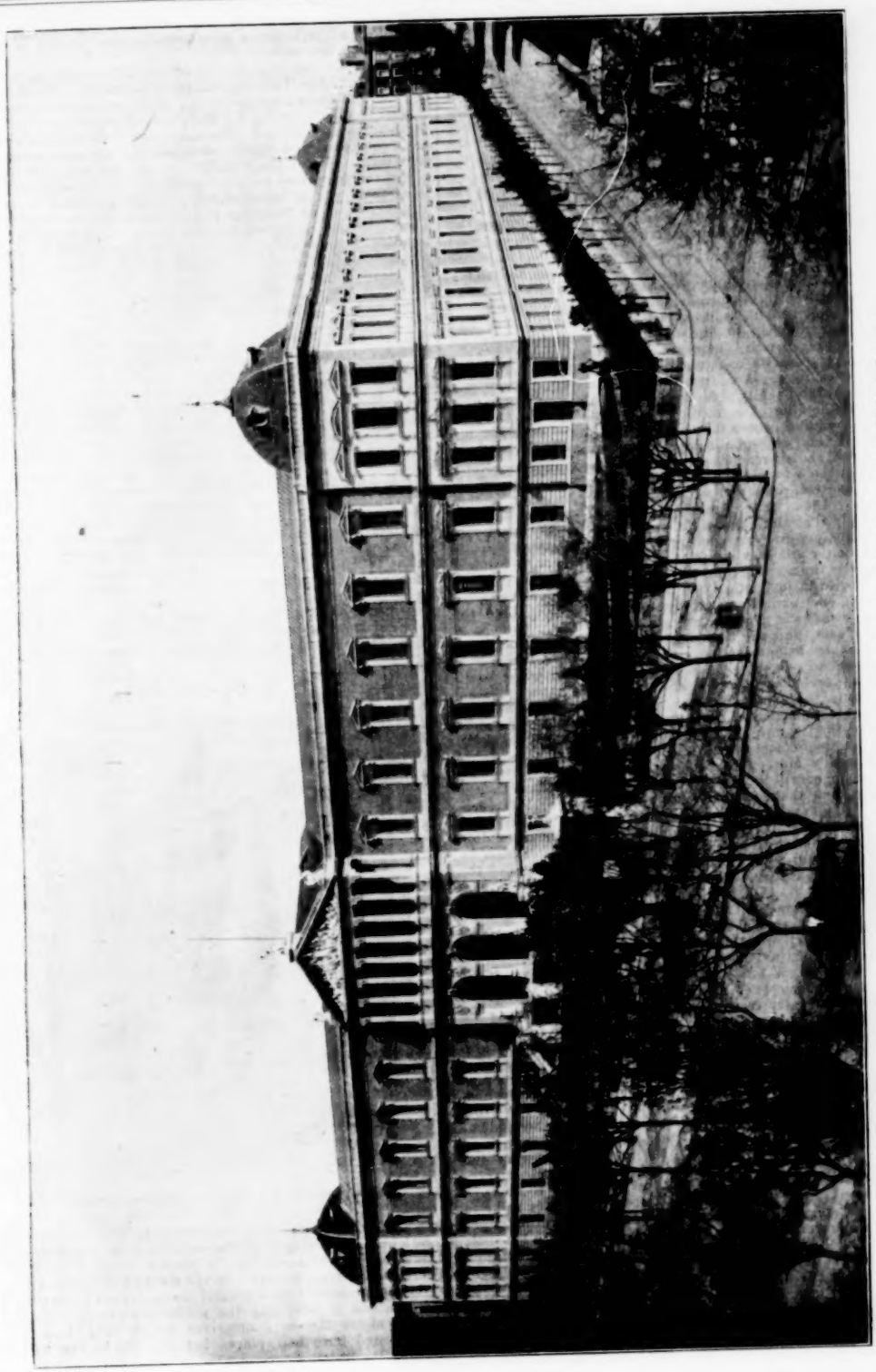


FIG. 1. The Royal Library and Museum, Madrid. The headquarters of the International Medical Congress.

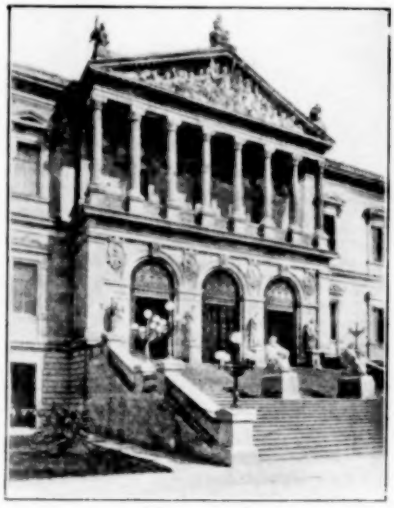
extravagant payments some measure must be taken to check such practices. Combination must be met by combination, and this to some extent is what has actually been done by the creation of the Service des Logements. I was pleased to find on arriving at Madrid that what was stated in THE LANCET on this subject in the issue of Feb. 14th (p. 456) has proved to be correct. Nor is this all. This Service will have its agents now at the railway stations to await the passengers and give them every help the moment they arrive and thus, if possible, prevent their falling into the hands of the harpies who are seeking unduly to exploit the situation. It only remains for the medical men to support the organisation formed by their fellow medical men of the reception committee and not be led into the toils of those who have sought to create a monopoly and then to practise extortion by pretending that there is no room.

Madrid, April 18th.

It has been not only a matter of difficulty to lodge satisfactorily all the members of the Congress owing to the reasons which I have just set out but it has also been very difficult to find a suitable meeting place for the Congress itself. There are 16 sections, each needing a meeting place of its own, and then there are all the offices, secretaries' rooms, &c., that likewise take up much space. Naturally the Faculty of Medicine seems an appropriate place for the holding of a medical congress. It is, however, an old building attached to a large and antiquated hospital at the far end of the Calle Atocha. This is a populous part of the town, the approaches are not of the best, and, in a word, it is not the sort of neighbourhood which the organisers of the Congress particularly cared to show to their foreign guests. Thus, while it was admitted as a sort of abstract principle that the Congress should meet at the Faculty of Medicine, yet everyone concerned was firmly determined that much better premises should be obtained. That this should be so was the more natural as a precedent had already been established in 1898, when the Ninth International Congress of Hygiene and Demography met at Madrid. Like the Ring Strasse at Vienna, so also at Madrid, there is a magnificent garden thoroughfare which constitutes the fashionable lounge and is known as the Prado. It is so broad that it holds several rows of trees, with gardens and fountains interspersed amid the junction of roads. Palaces, picture galleries, the monumental National Bank, and other splendid buildings line the sides of this, the Champs Elysées of Madrid. Among these buildings is the, comparatively speaking, new Palacio de la Biblioteca y Museos Nacionales. This enormous building was commenced in 1866 and concluded in 1894. On the ground floor there are the natural history and the archeological museums, while on the first floor there are a great number of palatial rooms containing the museum of modern painting and art. It was in these rooms and surrounded by splendid pictures that in 1898 the various sections of the Congress of Hygiene and Demography met. But there is also within this vast building the national library, containing some 30,000 very rare and valuable MSS. and more than 500,000 printed volumes. Here it is that the hitch in the arrangements has arisen. The chief librarian, as one of his enthusiastic admirers explained to me, is one of those remarkable men who may be seen perhaps once in 200 years. His knowledge of books is so extensive and minute that it can only be looked upon as marvellous. It seems as if he could not forget anything he has ever read and he will frequently also remember the page and the line where any particular passage occurs. To have secured the services of such a scholar as chief librarian is naturally most fortunate and all Spanish students are proud of their celebrated librarian. Now this explains the difficulty in which the organisers of the Medical Congress found themselves. They wanted the Congress to meet at the museum; but the librarian replied that the museum was in no wise connected with medical science, that students came from all parts of the world to study in the library under his charge, and that it was not right to disturb them. The objections that any other librarian might have made would probably have been set aside with but little scruple or hesitation, but in this case the great admiration and respect felt for so remarkable a person as the present librarian made the authorities hesitate and postpone the unpleasant task. At last, however, the librarian was sent for by the Government and given to understand that this was a question of international politics, that the premises belonged to the nation, and that the nation was anxious to give its foreign guests the best possible reception. So the librarian had reluctantly to consent to the closing of the library for a few days.

But now another obstacle had arisen. The museum, it will be seen, is a huge building, simple in character, with the exception that there are a projecting monumental entrance and central façade. (See Fig. 1.) Here are a flight of steps leading up to three splendid art ironwork doors. On the floor above are a colonnade and balcony and over this are some splendid sculptures. When the building of the museum was completed the sculptures were but partly done. The sculptor had much to do, the statues were being carved at Carrara in Italy, and there was no knowing when they would be completed. Therefore and so as not to spoil the general effect of the building, and, indeed, so as to be the better able to judge what this effect would be, plaster models of the proposed sculptures were put up and there they have been for some years. A few months ago, however, the statues were at last completed. They arrived at Madrid and were given up to the authorities. Of course the thought naturally arose that it would be well if the plaster models could be removed and the real sculptures put up before the Congress assembled. Señor Sagasta was then Prime Minister and a well-known architect, Señor Mariano Belmas, was asked if this could be done in time for the Congress. Though it would be necessary to erect very solid and elaborate scaffolding so as to take heavy statuary up to the height of the roof safely, still Señor Belmas undertook to do it all in time. The work was begun but shortly afterwards, as all the world knows, Spain lost one of her greatest statesmen—Señor Sagasta died. The Liberal party, deprived of his able leadership, collapsed and the Conservatives came into power. But Señor Belmas is not only an architect, he is also a Senator and was wont to vote on the Liberal side. Now it somehow happened that some difference arose between him and the sculptor. The Conservative Government thereupon informed Señor Belmas that he need not trouble about the matter any more as they would appoint some other architect to finish the work. All this concerns the Medical Congress because this

FIG. 2.

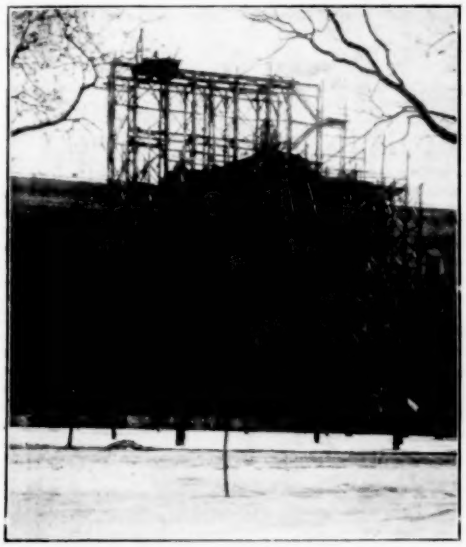


Entrance to the Museum, showing plaster statuary.

policy of "changing horses while crossing the stream" has occasioned such delay that the scaffolding is still there and it is doubtful whether it will be possible to get it all down before the Congress is over. In the meanwhile the members of the Congress will have to enter the museum by some back doors instead of ascending the majestic flight of steps and passing under the art sculptures which have now just been hoisted into their places but are still hidden by the

surrounding scaffolding. This miscalculation and delay are characteristic, a little *cosa España* of itself.

FIG. 3.



Entrance as it is, with scaffolding erected before it.

Other more serious delays have also happened. The members of the Congress will not mind much by which door they enter, but many complaints have been made because the various reports which were to serve as the basis of discussion in the different sections have not been sent out. Theoretically, these reports should be circulated among the members of the sections whom they concern some six weeks before the Congress meets and they can then be studied and the members can prepare their criticisms. Thus carefully thought out arguments could be brought forward during the discussions at the meetings of the sections. This, however, has not been done. The reports are not printed and there is no likelihood of their being published till long after the Congress ends. This, however, is not the fault of the organisers of the Congress. The reporters who were appointed have, for the most part, delayed and postponed doing the work, and finally nearly all the reports came in together at the eleventh hour. It was simply useless to attempt to do anything with them. Madrid is not a town like Paris or London. In Paris there are a good many English compositors, and in London there is no lack of type-setters who can set up French manuscripts. This is not so in Madrid. Therefore the proofs have to be corrected and re-corrected over and over again. There is a circular now in hand which has taken more than two months to print and my informant had only just corrected what he hoped would be the last revise. Thus even to-day the definitive programme of the Congress is not yet printed and it will be fortunate if it is ready a few hours before the Congress begins. This is not altogether the fault of the organisers of the Congress, for the facilities that exist in great commercial centres such as Paris and London cannot be expected in a small and purely political town like Madrid. On the other hand, the members of the reception committee are very much alert and are with never-failing courtesy ever ready to help and to advise the new arrivals.

Madrid, April 19th.

It is not one Congress but a whole series of Medical Congresses that is about to be held. This series will begin at 3 o'clock to-morrow afternoon, April 20th, when the Minister of Public Instruction will open the International Congress of the Medical Press. This Congress will meet at the Madrid University, and though it is said that no less than 100 Spaniards who claim to be connected with medical periodicals will be present the attendance from other countries will be small. This is due to some extent to the alarm caused by the rumours prevailing concerning the exorbitant charges made for rooms in Madrid, a question which I have already fully explained. In the evening the President of the Congress, Dr. Carlos M. Cortezo, will receive the delegates at his own house, and it is only on the Tuesday morning that the Congress will really get to work, when the general secretary, Dr. Angel de Larra, will read the correspondence and report on the general situation. In the afternoon of Tuesday there will be a further business sitting and in the evening the representatives of the medical press are to be received and entertained by the General Association of the Political and Literary Press. On Wednesday morning all business must be concluded, for there is to be a midday banquet, followed by the formal closing of the Congress, and then a reception at the town-hall and some representation at a theatre. As yet I only know of delegates coming from Belgium, France, Italy, Germany, Norway, and Great Britain.

Then on the Thursday the great International Congress of Medicine will begin, or rather the opening ceremony will be held in the Theatre Royal. The stage will serve as the platform where the King, the Queen Mother, the Ministers, and the principal personages of the Congress will be seated. The members of the Congress will occupy the floor of the great building, while in the boxes and galleries ladies and friends will be able to obtain a good view of all the proceedings. Many of the projected receptions and entertainments have already been announced. Their Majesties will throw open the palace to the congressists and there is also to be a Royal garden party. The Government and the municipality are likewise preparing entertainments for the members of the Medical Congress. But the definitive programme has not yet been published; indeed, the last details will only be settled to-day—that is to say, only four days before the Congress actually meets. It will conclude on April 30th, but on the very next day another Congress will commence. This is a congress of Spanish-speaking European and American medical men. The Spanish-American Congress, as it is briefly called, will only sit for two days. Finally, on May 3rd the fourth and last Medical Congress will meet. This is a purely Spanish national Medical Congress which is convoked to discuss questions of medical deontology or ethics. But somewhere amid these four Congresses there is to be a meeting of medical men and other persons who in some official capacity are concerned in the preservation of public health. The Deontological Congress will close on May 5th. Thus a whole fortnight is to be devoted to these four Medical Congresses. The population of Madrid will never before have heard so much about medical men and their concerns. The daily papers are already publishing columns of personal details concerning the leading members of the forthcoming congresses, and yet in the midst of it all there is to be a general election and there are ugly rumours concerning hunger riots in the south of Spain. It is perhaps not the least of the many compliments medical science is destined to receive during the course of the next few days, that no amount of home troubles or difficulties have made the Spanish Government and the organising committees falter for one moment in their determination to hold these Congresses and to make the members thoroughly welcome.

FOOD IN WAR TIME: A ROYAL COMMISSION APPOINTED.

THE King has been pleased to appoint a Royal Commission to inquire into the conditions affecting the importation of food and raw material into the United Kingdom in time of war. The reference to the Commission is "to inquire into the conditions affecting the importation of food and raw material into the United Kingdom in time of war and into the amount of the reserves of such supplies existing in the country at any given period and to advise whether it is desirable to adopt any measures, in addition to the maintenance of a strong fleet, by which such supplies can be better secured and violent fluctuations of price avoided." The following are the names of the Royal Commissioners:—H R H. the Prince of Wales; Lord Balfour of Burleigh (Chairman), Secretary for Scotland; the Duke of Sutherland; Lord Burghclere, formerly Minister of Agriculture; the Right Hon. Henry Chaplin, M.P., formerly Minister of Agriculture; the Right Hon. J. L. Wharton,

M.P., a director of the North-Eastern Railway; Vice-Admiral Sir Gerard H. C. Noel, who has commanded the Mediterranean Fleet and was a Lord of the Admiralty from 1893 to 1898; Sir John Colomb, M.P.; Sir Alfred Bateman, K.C.M.G., Comptroller-General of the Commercial, Labour, and Statistical Department of the Board of Trade; Sir H. Seton-Karr, M.P.; Mr. Henry H. Cunynghame, C.B., Assistant Under-Secretary of State, Home Office; Mr. E. Robertson, M.P., a Civil Lord of the Admiralty from 1892 to 1895; Mr. A. Emmott, M.P.; Mr. John Wilson, M.P.; Professor Erskine Holland, D.C.L., Professor of International Law, Oxford University; Mr. A. S. Harvey, of Messrs. Glyn, Mills, Currie, and Co., the bankers; Mr. J. E. Street, the chairman of Lloyd's; and Lieutenant-Colonel R. Montgomery, President of the Liverpool Corn Trade Association. Mr. W. H. Clark, of the Board of Trade, will act as secretary to the Commission.

MEDICINE AND THE LAW.

The Risks of Medical Practice.

THERE is a class of criminal charge which beyond all others is easy to make and difficult, or in many cases impossible, to disprove—we refer to charges involving unlawful carnal knowledge of females or indecent assault upon them. Accusations of this kind have also the peculiar feature that more than others they are liable to be made without any foundation whatever, either maliciously or because the disordered fancy of a woman or girl believes them to be true. Baseless charges such as these are by no means rare. They may be brought against men of any rank or calling, but, unfortunately for themselves, medical practitioners are more exposed to them than all others owing to circumstances incidental to the practice of their profession which are too obvious to require detailed explanation. With medical practitioners may be included dentists, not because they are called upon to make examinations or to perform operations likely to suggest the subject matter of a criminal charge, but because they are daily brought in contact with women of whose idiosyncrasies, mental and physical, they know nothing, and in their interviews with whom they are less likely than are medical practitioners to avail themselves of the presence of a third person. In THE LANCET of Jan. 31st, 1903, p. 344, it was suggested that if charges of indecency are to be sustained in courts of law without any direct corroboration of material particulars being insisted upon it will not be safe for a medical man to see patients alone. As a matter of practice evidence to some extent bearing out that of the prosecutrix is expected to be given in all cases of the class under consideration and in some it is specifically required by statute, but it is as well to point out that much of the corroborative evidence which is accepted as such at trials of this kind can hardly be said to bear directly or in any way conclusively upon the accusation made. Such testimony when there are no eye-witnesses and when there is nothing to prove that an alleged struggle took place usually includes the fact that the prosecutrix made a complaint to someone and stress is laid upon the question whether the complaint was made as soon as possible after the time of the supposed act. It is, however, by no means unlikely that the person making a complaint of an assault which never took place should make it immediately after the interview or meeting which may have suggested it to her mind and which in any case will lend colour to the accusation. Another class of corroborative evidence is that which medical men themselves are required to give. It, as a rule, consists in their being asked to make an examination of the sexual organs of a woman or girl and then to depose in the witness-box to conditions observed in them and bearing upon the charge made. In some cases extreme violence is alleged by the prosecutrix and the evidence of the medical man may negative this. In others it may tend to confirm the story she has told, but at the same time the presence of bruises or laceration does not necessarily prove that the accused person was the one who inflicted the injuries. At times, again, the medical evidence is confined to the fact that the condition of the parts examined is consistent with the female in question having had sexual intercourse at some time or other with a male person, and this circumstance, which obviously may be present when a woman has made a baseless charge against an innocent man, may weigh heavily against him in the minds of an uneducated and possibly prejudiced jury. The corroboration of the story of a prosecutrix in charges of unlawful carnal knowledge and indecent assault by evidence which is, strictly speaking, relevant to the issue to be tried may be difficult and in many instances impossible to obtain. This, however, is no reason why one person should be convicted of crime upon the unsupported word of another. If in the proof of material allegations a case is found to be one of "oath against oath" there can be no logical reason why the oath of the complainant should prevail over that of the person complained against if we assume each to enjoy equal good fame. It may be granted that one of two, the accuser or the accused, must be swearing falsely, but it must be remembered that if a charge of perjury were to be made in such circumstances no conviction would follow, for the unsupported oath of one man will not suffice at law to convict another of perjury. Two convictions for sexual offences upon the testimony of women which was not corroborated by any direct evidence have recently been referred to in THE LANCET.[1] In both of these the verdicts were arrived at with difficulty, owing to the divergent opinions formed by jurymen, and in neither of them was the trial held before a judge of the High Court of Justice. In particular the attention of the medical profession has been attracted by that of Mr. William Herbert Ray at Margate Quarter Sessions, in which the corroboration appears to have been reduced to the smallest possible dimensions. It may not be too late for the circumstances of this case to be examined by the Home Secretary and for the peculiar danger which it reveals to be very carefully considered by him. It may be regarded as typical of the risks to which medical men are daily subjected and for the avoidance of which no means appear to exist. It is hardly practicable for them to have third persons present at all their interviews with female patients, and unless some outcry is alleged to have been made, which must have been heard had it taken place, it is almost impossible for the accused to call any contradictory evidence other than his own. It is admittedly of the utmost importance that women should be protected from criminal acts and that those who commit such acts should be punished. Many criminals, however, escape conviction for all sorts of offences in the course of every year, and it is always reckoned as better that this should be the case than that there should be any risk of any innocent person being included among the guilty. In the case of sexual offences the danger of error is greater than when other criminal charges are brought, and when these offences are alleged against medical men the danger is immeasurably increased by the circumstances to which we have called attention.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8134 births and 4608 deaths were registered during the week ending April 18th. The annual rate of mortality in these towns, which had been 16·2, 15·8, and 15·6 per 1000 in the three preceding weeks, rose again to 15·9 per 1000 last week. In London the death-rate was 16·1 per 1000, while it averaged 15·9 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·8 in Croydon, 10·0 in Hornsey, 10·3 in Willesden, 10·4 in Stockport, 10·5 in Aston Manor, 10·6 in Barrow-in-Furness, 10·7 in Wallasey, and 10·8 in Coventry; the highest rates were 19·5 in Brighton, 19·7 in Bootle and in St. Helen's, 19·9 in Blackburn, 20·0 in Rhondda, 22·4 in Swansea, 23·5 in Wigan, and 24·4 in Sunderland. The 4608 deaths in these towns last week included 454 which were referred to the principal infectious diseases, against 489, 465, and 454 in the three preceding weeks; of these 454 deaths 165 resulted from measles, 91 from whooping-cough, 64 from diphtheria, 55 from diarrhœa, 34 from "fever" (principally enteric), 27 from scarlet fever, and 18 from small-pox. In 13 towns, including Brighton, Southampton, Northampton, Norwich, Derby, Stockport, Halifax, and eight other smaller towns, no death from any of these diseases was registered last week; while the highest death-rates from these principal infectious

[1] THE LANCET, Jan. 31st, 1903, p. 344, and March 14th, 1903, p. 749.

diseases were recorded in Tottenham, West Bromwich, St. Helen's, Wigan, Rochdale, Burnley, Middlesbrough, Rhondda, and Swansea. The greatest proportional mortality from measles occurred in Tottenham, West Bromwich, Nottingham, Wigan, Manchester, Burnley, Middlesbrough, and Swansea; from scarlet fever in Rochdale; from diphtheria in Hanley, Walsall, Oldham, and Middlesbrough; from whooping-cough in Tottenham, Portsmouth, Reading, St. Helen's, Oldham, Rochdale, and Burnley; from "fever" in Rhondda; and from diarrhœa in St. Helen's. Seven fatal cases of small-pox were registered in Liverpool, three in Leeds, and one each in Croydon, Leicester, Manchester, Oldham, Rochdale, Bradford, Rotherham, and Cardiff, but not one in any other of the 76 large towns. The number of small-pox patients in the Metropolitan Asylums hospitals, which had risen from five to 16 at the end of the seven preceding weeks, had further risen to 33 at the end of last week; 22 new cases were admitted during the week, against five, three, and five in the three preceding weeks. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday last, April 18th, was 1661, against numbers declining from 1798 to 1664 on the five preceding Saturdays; 188 new cases were admitted during the week, against 213, 205, and 158 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 250, 238, and 234 in the three preceding weeks, rose again last week to 262, but were 36 below the number in the corresponding week of last year. The causes of 61, or 1·3 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Croydon, West Ham, Bolton, Salford, Bradford, and 45 other smaller towns; the largest proportions of uncertified deaths were registered in Willesden, Birmingham, Smethwick Liverpool, Warrington, Sheffield, and Middlesbrough.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·6, 18·0, and 17·6 per 1000 in the three preceding weeks, rose again to 17·7 per 1000 during the week ending April 18th, and was 1·8 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 7·7 in Perth and 11·8 in Leith to 19·5 in Greenock and 20·3 in Edinburgh. The 581 deaths in these towns last week included 17 which were referred to whooping-cough, 17 to diarrhœa, eight to diphtheria, seven to measles, two to scarlet fever, and two to "fever," but not one to small-pox. In all 53 deaths resulted from these principal infectious diseases last week, against 77, 57, and 64 in the three preceding weeks. These 53 deaths were equal to an annual rate of 1·6 per 1000, which was also the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 25 in each of the two preceding weeks, declined last week to 17, of which 11 occurred in Glasgow, three in Edinburgh, and two in Dundee. The deaths from diarrhœa, which had been 17, 14, and 11 in the three preceding weeks, rose again to 17 last week, and included nine in Glasgow, three in Aberdeen, two in Edinburgh, and two in Greenock. The fatal cases of diphtheria, which had been three, one, and three in the three preceding weeks, further rose last week to eight, of which four were registered in Glasgow and two in Edinburgh. The deaths from measles, which had risen from eight to 14 in the four preceding weeks, declined again to seven last week, and included three in Aberdeen, two in Edinburgh, and two in Dundee. The mortality from scarlet fever and from "fever" showed a decline in each case from that recorded in the preceding week. The deaths referred to diseases of the respiratory organs in these towns, which had been 100, 121, and 98 in the three preceding weeks, rose again last week to 109 and were 90 below the number in the corresponding period of last year. The causes of 20, or more than 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 29·3, 27·1, and 23·7 per 1000 in the three preceding weeks, rose again last week to 24·5 per 1000. During the past four weeks the death-rate has averaged 26·2 per 1000, the rates during the same period being 15·9 in London and 18·9 in Edinburgh. The 178 deaths of persons belonging to Dublin registered during the week under notice were six in excess of the number in the preceding week and included six which were referred to the principal infectious diseases, against 18, 15, and 16 in the three preceding weeks; of these, two resulted from scarlet fever, two from "fever," one from small-pox, and one from whooping-cough, but not one from measles, from diphtheria, or from diarrhœa. These six deaths were equal to an annual rate of 0·8 per 1000, the death-rates last week from the same diseases being 1·7 in London and 1·6 in Edinburgh. The fatal cases of scarlet fever, which had been two, two, and one in the three preceding weeks, rose again to two last week. The deaths from "fever," which had been three, two, and four in the three preceding weeks, declined again last week to two. In each of the last four weeks one fatal case of small-pox has been registered. The 178 deaths in Dublin last week included 29 of children under one year of age and 46 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a slight decline from the respective numbers recorded in the preceding weeks. Four inquest cases and five deaths from violence were registered, and 59, or nearly one-third, of the deaths occurred in public institutions. The causes of six, or more than 3 per cent., of the deaths in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING MARCH, 1903.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·9 per 1000 of the population, estimated at 4,613,812 persons in the middle of the year. In the three preceding months the rates had been 7·4, 6·5, and 6·2 per 1000 respectively. The rates were considerably below the average in Paddington, Hampstead, Stoke Newington, Finsbury, Greenwich, and Woolwich, while they showed the largest excess in Hammersmith, Fulham, St. Pancras, Hackney, Bermondsey, Wandsworth, and Deptford. The prevalence of small-pox showed a slight decline from that recorded in the preceding month; of the 13 cases notified during the month, three belonged to Chelsea, three to Stepney, two to Bermondsey, two to Camberwell, one to Finsbury, one to Battersea, and one to the "Port of London." The Metropolitan Asylums hospitals contained 13 small-pox patients at the end of March, against 14, seven, and five at the end of the three preceding months; the weekly admissions averaged three, which was the average weekly number in each of the five preceding months also. The prevalence of scarlet fever showed a slight increase over that recorded in the preceding month; this disease showed the highest proportional prevalence in Fulham, Bermondsey, Wandsworth, Deptford, and Lewisham. The number of scarlet fever patients in the Metropolitan Asylums hospitals, which had been 2327, 1980, and 1820 at the end of the three preceding months, had further declined to 1704 at the end of last month; the weekly admissions averaged 208, against 236, 212, and 205 in the three preceding months. The prevalence of diphtheria showed a slight decline from that in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in St. Pancras, Hackney, Bethnal Green, Southwark, Wandsworth, and Deptford. There were 903 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 981, 936, and 1030 at the end of the three preceding months; the weekly admissions averaged 126, against 136, 131, and 152 in the three preceding months. The prevalence of enteric fever last month showed a further decline from that recorded in recent months; the greatest proportional prevalence of this disease occurred in Kensington, Hammersmith, City of Westminster, Bermondsey, Wandsworth, Deptford and Greenwich. The number of enteric fever patients under treatment in the Metropolitan Asylums hospitals, which had been 210, 172, and 125 at the end of the three preceding months, had further declined to 92 at the end of March; the weekly admissions averaged 15 last month, against 30, 22, and 13 in the three preceding months. Erysipelas was proportionally most prevalent in Hammersmith, Holborn, Finsbury, Shoreditch, Bethnal Green, and Battersea. The 18 cases of puerperal fever notified during

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1903.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1903.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.													
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.	Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
LONDON	4,613,812	13	1213	821	7	135	2	18	385	—	2594	5·9		336	31	97	264	1	21	—	98	850	1·9	7025	15·9	125
West Districts.																										
Paddington	146,032	—	14	24	—	4	—	—	9	—	51	3·6	—	—	—	3	9	—	2	—	3	17	1·2	180	12·9	106
Kensington	178,409	—	45	14	—	7	—	—	14	—	80	4·7	—	—	1	5	21	—	1	—	6	34	2·0	267	15·6	165
Hammersmith	115,803	—	37	25	—	5	—	1	14	—	82	7·4	—	2	1	3	7	—	—	—	1	14	1·3	162	14·6	164
Fulham	147,780	—	65	19	—	1	—	4	17	—	106	7·5	—	—	1	—	10	—	—	—	3	14	1·0	174	12·3	118
Chelsea	74,169	3	15	16	—	—	—	—	4	—	38	5·3	—	1	—	—	6	—	—	—	1	8	1·1	118	16·6	128
City of Westminster	179,062	—	42	23	—	7	—	1	10	—	83	4·8	—	2	3	1	8	—	1	—	4	19	1·1	255	14·9	162
North Districts.																										
St. Marylebone	131,234	—	39	18	—	1	—	1	10	—	69	5·5	—	2	2	1	14	—	—	—	5	24	1·9	218	17·3	119
Hampstead	85,197	—	21	12	—	1	—	—	2	—	36	4·4	—	3	—	4	3	—	—	—	1	11	1·5	96	11·8	64
St. Pancras	235,716	—	74	60	—	6	—	2	25	—	167	7·4	—	24	2	3	23	—	1	—	1	54	2·4	350	15·5	113
Islington	339,137	—	82	46	—	5	1	1	22	—	157	4·8	—	18	4	5	31	—	1	—	11	70	2·2	473	14·5	143
Stoke Newington	52,069	—	7	9	—	1	—	—	2	—	19	3·8	—	12	—	1	2	—	—	—	—	15	3·0	78	15·6	100
Hackney	224,082	—	62	73	—	5	1	1	25	—	167	7·8	—	16	2	4	11	—	—	—	5	38	1·8	303	14·1	110
Central Districts.																										
Holborn	57,845	—	16	8	—	2	—	—	11	—	37	6·7	—	1	—	1	4	—	1	—	2	9	1·6	117	21·1	119
Finsbury	99,717	1	11	9	—	3	—	2	13	—	39	4·1	—	7	—	2	5	—	—	—	2	16	1·7	210	22·0	138
City of London	24,539	—	9	2	—	—	—	—	—	—	11	4·7	—	—	—	—	1	—	—	—	—	1	0·4	29	16·6	167
East Districts.																										
Shoreditch	117,513	—	23	10	—	4	—	1	16	—	54	4·8	—	18	—	1	7	—	1	—	1	28	2·5	236	20·9	137
Bethnal Green	130,028	—	22	30	—	3	—	1	22	—	78	6·3	—	14	—	4	5	—	1	—	2	26	2·1	229	18·4	111
Stepney	302,153	3	63	56	1	11	—	1	27	—	162	5·6	2	33	—	8	9	—	2	—	7	61	2·1	536	18·5	117
Poplar	169,560	—	27	32	—	6	—	1	11	—	77	4·7	—	64	—	6	16	—	—	—	1	87	5·4	338	20·8	149
South Districts.																										
Southwark	207,369	—	51	47	—	8	—	—	14	—	120	6·0	—	18	2	9	7	—	2	—	4	42	2·1	403	20·3	142
Bermondsey	129,801	2	57	16	6	6	—	1	13	—	101	8·1	—	13	3	2	4	1	—	—	2	25	2·0	236	19·0	107
Lambeth	307,711	—	72	44	—	8	—	—	16	—	140	4·7	—	20	1	2	21	—	—	—	14	58	2·0	469	15·9	148
Battersea	173,422	1	55	22	—	6	—	—	25	—	109	6·6	—	16	—	4	9	—	2	—	—	31	1·9	238	14·3	117
Wandsworth	249,678	—	91	65	—	10	—	—	18	—	184	7·7	—	13	3	10	10	—	1	—	8	45	1·9	314	13·1	121
Camberwell	265,562	2	83	37	—	7	—	—	15	—	144	5·7	—	10	2	8	10	—	2	—	8	40	1·6	391	15·4	114
Deptford	112,537	—	46	46	—	5	—	—	12	—	109	10·1	—	10	2	5	4	—	1	—	1	23	2·1	142	13·2	71
Greenwich	99,824	—	14	15	—	4	—	—	5	—	38	4·0	—	6	—	2	3	—	1	—	1	13	1·4	144	15·0	116
Lewisham	136,405	—	50	27	—	2	—	—	10	—	89	6·8	—	7	2	3	—	—	1	—	2	15	1·1	150	11·5	99
Woolwich	121,478	—	20	15	—	3	—	—	3	—	41	3·5	—	6	—	—	4	—	—	—	2	12	1·0	159	13·6	113
Port of London	—	1	—	1	—	4	—	—	—	—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

the month included four in Fulham, two in St. Pancras, and two in Finsbury.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the five weeks ending April 4th the deaths of 7025 persons belonging to London were registered, equal to an annual rate of 15·9 per 1000, against 18·2, 18·2, and 16·5 per 1000 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 11·5 in Lewisham, 11·8 in Hampstead, 12·3 in Fulham, 12·9 in Paddington, 13·1 in Wandsworth, 13·2 in Deptford, and 13·6 in Woolwich; the highest rates were 19·0 in Bermondsey, 20·3 in Southwark, 20·8 in Poplar, 20·9 in Shoreditch, 21·1 in Holborn, and 22·0 in Finsbury. The 7025 deaths from all causes included 850 which were referred to the principal infectious diseases; of these, two resulted from small-pox, 336 from measles, 31 from scarlet fever, 97 from diphtheria, 264 from whooping-cough, one from typhus, 21 from enteric fever, and 98 from diarrhœa, but not one from simple continued fever. The lowest death-rates from these principal infectious diseases were recorded in Paddington, Fulham, Chelsea, City of Westminster, City of London, Lewisham, and Woolwich; and the highest rates in St. Pancras, Islington, Stoke Newington, Shoreditch, and Poplar. The two fatal cases of small-pox belonged to Stepney. The 336 deaths from measles were slightly in excess of the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in St. Pancras, Stoke Newington, Shoreditch, Bethnal Green, Stepney, and Poplar. The 31 deaths from scarlet fever were only one half of the average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in City of Westminster, St. Marylebone, Bermondsey, Deptford, and Lewisham. The 97 fatal cases of diphtheria showed a decline of 102 from the corrected average number; among the various metropolitan boroughs diphtheria was proportionally most fatal in Hampstead, Bethnal Green, Poplar, Southwark, Wandsworth, Camberwell, and Deptford. The 264 deaths from whooping-cough were slightly below the average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Kensington, Chelsea, St. Marylebone, St. Pancras, Islington, and Poplar. The 22 deaths referred to "fever" showed a decline of 21 from the corrected average number; among the various metropolitan boroughs the highest fever death-rates were recorded in Paddington, Holborn, Southwark, Battersea, and Greenwich. The 98 fatal cases of diarrhœa were considerably in excess of the average; the highest proportional fatality from this disease was recorded in Kensington, St. Marylebone, Islington, Holborn, Lambeth, Wandsworth, and Camberwell. In conclusion, it may be stated that the aggregate mortality from these principal infectious diseases in London last month was more than 14 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths among children under one year of age to registered births, was equal to 125 per 1000. The lowest rates of infant mortality were recorded in Paddington, Hampstead, Hackney, Bermondsey, Deptford, and Lewisham; and the highest rates in Kensington, Hammersmith, City of Westminster, Stoke Newington, and City of London.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeon J. D. Hughes to the *Pioneer*. Surgeon A. D. Spalding to Chatham Hospital, lent. Civil Practitioner W. E. Munro to be Surgeon and Agent at Burghead.

ARMY MEDICAL SERVICE.

Major and Brevet Lieutenant-Colonel M. W. H. Russell, R.A.M.C., to be a Deputy Assistant Director-General, on augmentation. Dated April 1st, 1903.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel W. A. May, C.B., to be Colonel, vice J. P. Rooney, retired. Dated March 22nd, 1903.

The undermentioned officers were promoted for service in South Africa, and not as stated in the *Gazette* of Feb. 24th, 1902:—Army Medical Staff: Colonel F. W. B. Hodder, retired pay, and Major H. L. G. Chevers, retired list. (*London Gazette*).

IMPERIAL YEOMANRY.

Royal 1st Devon: Surgeon Lieutenant M. B. Stewart resigns his commission. Dated April 22nd, 1903. North Somerset: Surgeon-Lieutenant J. G. D. Kerr resigns his commission. Dated April 22nd, 1903.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Lieutenant G. R. F. Stilwell to be Surgeon-Captain. Dated April 22nd, 1903. 2nd Volunteer Battalion the York and Lancaster Regiment.

DEATHS IN THE SERVICES.

Brigade-Surgeon Richard Thomas Lyons, I.M.S. (retired list), suddenly at his residence, Scrope-terrace, Cambridge, from angina pectoris, in his sixty-eighth year. He joined the army in 1860 and served in the Umbeyla Campaign, 1868, and was present at the forcing of the Pass and at the defence of Eagles' Nest picquet (mentioned in despatches, medal with clasp). He took part in the Lushai Expedition of 1870, in the Afghan War, 1878–79 (medal with clasp), and served with the Suakim Expedition of 1885 (medal, clasp, and bronze star).

Deputy Surgeon-General George Bankes Floyer Arden, A.M.D. (retired list), suddenly on April 1st at sea on board the *Zwecna*. After joining the army as assistant surgeon he became surgeon in 1866, and retired with the honorary rank of deputy surgeon-general in 1879. He served with the 12th Regiment in the New Zealand War from July, 1863, to June, 1866 (medal).

Deputy Surgeon-General Joseph Furlonge Shekleton, I.M.S. (retired), at his residence, Victoria-square, Clifton, on April 15th in his eighty-third year. The deceased entered the Indian Medical Service in 1845 and served with the 3rd Troop Bombay Horse Artillery in the Punjab Campaign of 1848–49, being present at the siege of Multan and the battle of Guzerat, for which he received the medal and two clasps. He subsequently qualified for the Assay Department and was assay master and acting mint master at Calcutta. After his retirement he lived at Clifton and was for about eight years secretary and house governor to the Bristol Royal Infirmary. The deceased rendered valuable service to that institution and up to the time of his death he took a great interest in all things connected with it.

"FRIGHTENING RECRUITS."

Under this heading the *Daily Mail* of April 21st calls attention to St. George's Barracks at the back of the National Gallery—the uninviting London recruiting barracks. We have frequently insisted upon the necessity which exists of locating our recruiting buildings in good and prominent positions and of making them bright and alluring. If the War Office is desirous of attracting a really desirable class of recruits into the army one of the first things to be done is to provide a different class of buildings to those which are to be found at present in so many of our cities and large towns with the introduction at the same time of a new and more popular system of arrangements.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The annual dinner of the staff and past and present members of the school will take place at the Trocadéro Restaurant, Piccadilly-circus, London, W., on Thursday, May 14th, at 7.30 P.M. The chair will be taken by the senior medical officer, Brigade-Surgeon-Lieutenant-Colonel P. B. Giles, V.D. Sir William Taylor, K.C.B., Director-General of the Army Medical Service, will be the principal guest. Applications for tickets should be addressed to the mess president, Surgeon-Captain E. M. Callender, A.M.R., 40, Connaught-square, London, W.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 21st, Sir J. N. Dick, K.C.B., R.N. (retired), being in the chair, the sum of £50 was distributed among the several applicants.

Looking Back.

FROM

THE LANCET, *SATURDAY*, APRIL 23, 1825.

FOREIGN DEPARTMENT.

ANALYSIS OF FOREIGN MEDICAL JOURNALS.

REVUE MEDICALE—FEVRIER.

A remarkable case of Poisoning by Prussic Acid, with some Observations on the employment of Ammonia as a remedy.

Towards the latter end of August, M. B., a physician of Rennes, of a strong constitution, prepared some hydrocyanic acid, and was induced to take a portion, from which he felt no inconvenience. On the 3d of September following, at 11 o'clock in the morning, he took in some coffee almost a tea-spoon full of the prussic acid, prepared according to the method of Scheele. He found this stronger than his own, but still it had no material effect. At one he dined, and about seven o'clock in the evening he again took the same quantity as before, prepared by M. Delonde. He found this stronger than the preceding, but said, "Still it has no effect" He immediately left the apartment where he made this experiment, but scarcely had he advanced three steps in the street, when he felt a sort of shock in the head, which he considered as the precursor of some mischief. He collected himself, and said, "*Ma Foi*, it has done something! Give me ——" and immediately fell, as if thunderstruck. *The first symptoms* were sudden cessation of the intellectual powers, trismus, difficult respiration, followed by cold extremities and stertorous breathing; an odour of bitter almonds exhaled from, and distortion of, the mouth; pulse scarcely perceptible at the left, but much stronger at the right wrist; the face discoloured and swollen; pupils fixed and dilated; in short, in every respect similar to a man in the last stage of apoplexy. *Frictions, with the tincture of cantharides, and pure ammonia; compresses soaked in the same mixture; and large sinapisms were applied.*

The trismus increased, until at length a convulsive action took place, greatly resembling opisthotonos, which lasted for some minutes. An iron spoon was slipped between the teeth, and, by means of a small opening, a feather was introduced as far as the throat; this stimulus excited nausea, and some black mucus was vomited. The essential oil of turpentine in some coffee was then given. Ice was also applied to the head. This treatment was persevered in for two hours and a half, when the patient evinced some return of his senses by the following words, "*I have taken prussic acid—I recommend my son to you—give me air, and let me die.*" He likewise recognised some friends surrounding him. The intellectual faculties returned by degrees. There still existed a considerable dyspnœa; sinapisms were applied, and a strong purgative enema administered, on the action of which, a large quantity of flatus was disengaged, strongly impregnated with the odour of prussic acid.

By six in the morning he was capable of being removed to his own house. On the 4th, slight febrile symptoms came on; he also complained greatly of his mouth, which was intensely inflamed, and much ulcerated. Inflammation of the lungs supervened, but which was eventually removed, and on the sixteenth day after the accident, he was enabled to walk out; and at present enjoys even better health than before the accident.

From the above circumstance it is evident that the prussic acid of the shops varies not only with respect to the intensity and rapidity with which it diffuses its baneful principles, but very probably in its component parts. In fact, M. D. tells us, that four drops of the acid prepared according to Scheele, had no other effect on him, than a sensation of constriction about the upper part of the pharynx, whilst the mere inspiration from a flask containing the acid which M. B. took, occasioned a great irritation about the top of the nasal passages, accompanied with pain in the head, and giddiness; alcohol and pure *ammonia* immediately removed it. Dr. MURRAY has also found that ammonia, in the dose of a few drops, instantly dispels the severe headaches incident to those persons working in the laboratories where the prussic acid is made. This acid appears to act suddenly on the brain, by suspending the nervous influence, while the nerves of the spine still continue to act. It besides effects the organs of respiration, since the most formidable symptoms were those of very great oppression in breathing; suppression of urine also lasted for four days.

From the impossibility of deglutition, M. D. recommends the introduction of a gum elastic sound into the nasal passages, through which the counter poison could be received in the stomach. He concludes by observing, too much care cannot be taken in selecting a medicine of such powerful and varied strength.

Correspondence.

"Audi alteram partem."

THE DANGER OF SELF-MEDICATION WITH TABLOIDS.

To the Editors of THE LANCET.

SIRS,—The case of acute trional poisoning recorded in THE LANCET of April 18th, p. 1096, is one which has very practical lessons, not only for the public, but also for the profession, at the present time. I have always maintained that the tabloid form of medicine was a snare and a delusion. Put up, as these products are, in beautifully designed bottles with labels bearing the prescription and directions in the plainest of English, they naturally aid the laity in self-treatment. Time after time I have been called to attend ladies who were suffering from the effects of what one must call "tabloid poisoning" for want of a better generic term. Sulphonal, opium, digitalis, strychnine, and thyroid extract are but a few of the drugs which I have found patients taking themselves in the form of tabloids and prescribing right and left to their friends.

If the medical attendant is so foolish as to order a bottle of tabloids for any particular patient he may rest assured that his patient will in future prescribe for himself and cease to trouble his medical adviser. It is all very well to say that the chemist always removes the tabloids from the original bottle and puts them up in a plain box with the physician's directions written on an ordinary stock label. The patient, somehow or other, soon finds out the name of the tabloids he is getting and also that he can obtain them more cheaply by going to a drug-store and purchasing a bottle of 25 or 100. The patient referred to in the case described in your columns knew that she was taking trional and also that from one to six tabloids was a dose. But surely 30 grains of trional are more than an average amount. We find that she had taken "two or three of the tabloids once before," and that she "thought they were quite harmless things." Time after time have I been told the same thing by patients who had been taking tabloids of thyroid extract with disastrous results.

Surely in view of the facts which I have stated we, as a profession, should discountenance the prescribing of tabloids for patients. If we cannot write prescriptions in the orthodox way it is high time we ceased to exist as a profession. I, for one, have never at any time ordered tabloids and never intend doing so. It would be interesting to have the opinion of the leading members of our profession on the subject, but meantime I trust that those who read the case of trional poisoning will bear it in mind as a lesson and a warning against the prescribing of such dangerous products as tabloids.

I am, Sirs, yours faithfully,

JAMES BURNET, M.A., M.B., M.R.C.P. Edin.

Edinburgh, April 18th, 1903.

THE RISE OF BLOOD PRESSURE IN LATER LIFE.

To the Editors of THE LANCET.

SIRS,—In his letter to THE LANCET of March 28th, p. 920, Professor T. Clifford Allbutt says: "The pressure in any one capillary is, of course, infinitely small." He estimates the mean capillary pressure as about 50 mm. Hg and is therefore presumably using the term "pressure" in the ordinary

sense as implying the force exerted per unit area, since this is the only sense in which pressure can be estimated by the height of a column of fluid. If we use the term "pressure" in this sense it is impossible that the pressure in any individual capillary should be infinitely small, since it must be greater than that in the vein into which the capillary opens as otherwise there could be no flow of blood from the capillary into the vein. The pressure in any individual capillary in a given area is the same as the mean capillary pressure for that area. If, then, the mean pressure in a given area is 50 mm. Hg the pressure in any individual capillary will, allowing for local variations, be of the same amount. I venture to think that Professor Allbutt has misunderstood Dr. Harry Campbell. Dr. Campbell refers to capillary resistance and not to the pressure. As I understand Dr. Campbell this capillary resistance is not the pressure but is the amount by which the pressure is lowered during the passage of the blood through the capillaries.

I am, Sirs, yours faithfully,

CHARLES POWELL WHITE.

St. Thomas's Hospital, S.E., April 16th, 1903.

OPERATION IN SUPPURATIVE DISEASES OF THE EAR.

To the Editors of THE LANCET.

SIRS,—I have read with much interest Mr. Charles A. Ballance's paper as published in THE LANCET of April 11th, p. 1010. I do not propose to criticise his operation which he has taken such trouble to perfect. I certainly agree with him that it is not for everybody to attempt. I should be glad, however, if you would allow me to express a doubt as to whether all his opinions in this matter of suppurative otitis are well founded. For a good many years I have devoted a considerable proportion of my time to the study of this disease and I know that the large majority of cases may be cured by treatment through the meatus if sufficient skill and attention be given. I have published from time to time some of the results of my system of antiseptic irrigation of the ear. Further experience has confirmed my opinion as to its general efficacy, though I have found it necessary in certain cases to remove by operation the remains of the membrane which may be an obstacle to free irrigation. I had doubts at first as to the safety of this proceeding, but I find that the complete removal produces little or no disturbance in these cases. I remove the membrane as completely as possible with the malleus and in some cases curette the attic. And here I am at direct issue with Mr. Ballance. After the numerous operations which I, as well as others, have performed without any serious symptom having arisen, I cannot agree with Mr. Ballance's opinion that "such measures as curetting away granulations, removal of ossicles, polypi, &c., are not only inefficient but dangerous." In face of so much professional indifference to, and ignorance of, ear diseases such a statement from a well-known man may do a great deal of harm. But we are to swallow the camel in the five-hour operation of Mr. Ballance and at the same time to reject the gnat in the common-sense and often absolutely necessary minor operation of ten minutes' duration. As to the inefficiency of operations through the meatus, I can only say that I have been able to cure by such means several cases that had been under prolonged treatment by specialists without relief. It is certainly true that there has been much inefficient treatment of the ear both with the syringe and the curette—and the same may be said of treatment with burr and chisel. I have before now pleaded for more thorough methods and close personal supervision. Some of my cases are attended to three or four times a day and the out-patients attend at the hospital daily for irrigation. These cases are kept under constant observation and therefore my statement that I have never observed extension of disease to the bone in cases under irrigation should carry some weight. But passing on to cases in which through neglect the bone has already been diseased I think that each case should be studied on its own merits or demerits and that a routine resort to the complete operation is to be deprecated. I have certainly seen a good many cases recover after what I am afraid Mr. Ballance would call very partial operations and I can remember very few indeed which seemed to require the drastic removals advocated by Mr. Ballance. And after the most elaborate and exhausting of these radical operations the surgeon can never be sure that he has removed all disease. In any case he will have to rely for cure on the vitality of the tissues which he has been good enough to leave. Tissue vitality, when assisted by antiseptic irrigation, will sometimes effect what the boldest surgeon dare not attempt. I have on four occasions removed the remains of the exfoliated cochlea through the meatus with large portions of the petrous bone. Three of these cases recovered. The fourth succumbed to whooping-cough and pneumonia when nearly recovered of his ear disease.

I am, Sirs, yours faithfully,

April 21st. F. FAULDER WHITE.

THE BATTLE OF THE CLUBS.

To the Editors of THE LANCET.

SIRS,—With regard to an able article which appeared recently in THE LANCET by your special correspondent on the important subject of the organisation of the medical profession, more especially in the mining districts of South Wales, I consider the well-written article an issue of the greatest value and importance to all medical practitioners in works districts. I was in hope that such would have been commented upon by a senior medical practitioner in South Wales. We, the medical practitioners in the mid-districts of the Swansea valley, cordially met to arrange proposals for new conditions and methods of organisation. We made an application to the chairman of the works committee of the various works, also to the chairman of the directors, asking him to allow the clerk to deduct 3*d.* in the pound of wages received under the old Surgeon's Truck Act, in accordance with lists supplied by our collectors, for professional attendance upon the colliers and their families. We, moreover, get an extra fee for midwifery cases and find no difficulty to obtain extra fees for such attendance. Previously, medical fees were paid very unequally at different works for our professional services. I may mention that I have only been two years in practice here and I was from the first very dissatisfied with such a method of payment. Unfortunately, our application did not at first meet with the approval of the workmen, who turned out of one of the collieries one day owing to this matter; upon further consideration they returned to their work the following morning, with the result that a deputation called upon one of the senior medical practitioners requesting that the medical fees should remain as before. We would not consent to any such arrangement and by doing so we were successful on all points. This was an important stand owing to there being three medical men representing some of the colliers. The able article which recently appeared in your valuable journal by your special commissioner is well worthy of perusal by all colliery surgeons and their serious consideration regarding such an important matter.

I am, Sirs, yours faithfully,

Gwys, near Swansea, April 13th, 1903. D. WOLSELEY SCOTT.

JACOBI'S ATLAS OF SKIN DISEASES—SMALL-POX AFTER VACCINATION: A CORRECTION.

To the Editors of THE LANCET.

SIRS,—As the English translation of the above work is obtaining a considerable circulation in this country (which the general excellence of the plates fully justifies) I feel it is my duty, in the true interests of vaccination, to correct an unfortunate and inexplicable misstatement which appears under the heading of "small-pox." Such an error in so important a work is calculated, if uncorrected, to lead to serious misapprehension.

The representations of small-pox in the work consist chiefly of reproductions of photographs, six in number; the first four being of severe unmodified cases and the last two of very mild and highly modified cases. In the letterpress, after the description of the first four photographs, appears the following extraordinary statement (p. 62):—"Although variola may undoubtedly occur occasionally in persons who have been vaccinated with apparent success the disease is invariably modified and never assumes the more severe type illustrated in the preceding photographs. ..... The rash is always scanty and sparse in distribution ..... and the lesions soon dry up to form small brownish scabs."

It is scarcely necessary to point out that such a statement

is quite at variance with the real facts and although a defective knowledge of small-pox may be excusable in a German author it is certainly surprising that an English translator should have passed the statement without comment. That it was allowed to pass, however, seems to indicate that amongst medical men who have not had much practical experience of small-pox there is a somewhat exaggerated idea of the efficacy of vaccination. It is fully recognised nowadays that the protection conferred by vaccination lapses after a variable number of years and that too often small-pox, if then contracted, assumes an unmodified and possibly fatal form. I have myself seen confluent and entirely unmodified small-pox only ten years after vaccination, but such cases are fortunately very rare and quite exceptional. 20 years after vaccination, however, unmodified small-pox is by no means uncommon.

As regards the illustrations themselves, they are reproductions of photographs taken by me in the Birmingham epidemic, 1892 95. It is to be regretted that the author did not communicate with me before making use of them. He could then at least have made sure that he had the facts relating to them correctly. As it is, he states concerning the unmodified cases: "None of the four cases depicted were protected by vaccination," which statement, taken literally, is obviously quite true. But if the author intends to imply (as from the context it is clear that he does) that none of them had ever been vaccinated, then he is certainly in error. I have looked up my original photograph of Case xxxv.B. 1, which he describes as "an extremely severe case of confluent small-pox in a man, aged 23, on the tenth day of the disease," and I find the following note written on the back: "Ernest S——, 23 years, vaccinated, four marks, fair size and foveation; photo taken tenth day." I remember the case quite well as the poor fellow remained in hospital for an unusually long time owing to serious complications. The value of vaccination in conferring protection against small-pox *for a time* has been so completely established as to be beyond the pale of scientific controversy, but reckless statements such as the one in question in a presumably scientific work can only bring the operation into the gravest disrepute and go far to explain the bitterness of those who are opposed to it.

I am, Sirs, yours faithfully,

Town Hall, Leicester, April 6th, 1903. C. KILLICK MILLARD.

CONTRACT PRACTICE IN THE COUNTY OF DURHAM.

To the Editors of THE LANCET.

SIRS,—For four years a struggle has been going on in the county of Durham to obtain increased remuneration for medical attendance on the miners. In some places the higher rate has been easily obtained, in other places there has been delay, whilst in a few places the struggle has been somewhat keen. At the present time in the outskirts of the cathedral city of Durham a very strong and bitter spirit is shown by the miners of this district. Having stoutly rejected the demand made by the local practitioner who had served the miners so well for some eight years, they obtained the services of an outsider; they canvass for him, they coerce their fellow-men to become his patients, and they sing his praises in every cottage; but after a time certain events happen which demonstrate very clearly that the skill displayed by the outsider is not all that may be desired.

The County of Durham Medical Union has quietly and very certainly made up its mind not to associate in any way with a medical man who tramples under foot all that is honourable in the profession. This union is heartily supported by all the consultants of the north of England. When miners strike for more pay and any men are found who are ready to work at the lower rate, they are dubbed "blacklegs," and are likely to be treated with much violence by those on strike. Medical men cannot resort to violence towards those who are willing to take the lower rate of pay (and so take away the practice of a medical man), but the only course they can adopt is to hold aloof as a body and a union and not in any way to associate with one who has lost all dignity and honour. The miners in this particular instance would fain compel the medical union to recognise and associate with the man of their choice without any regard to principles.

In the year 1899 I sent a printed appeal to the medical schools of Scotland and the North of England pointing out that a struggle was going on in the county of Durham for increased remuneration and we trusted to the dignity and uprightness of our brethren in the profession not to take advantage of the offers made by the miners. We think that this appeal was noticed in some way; at any rate, we have been assured that the students readily grasped the situation and expressed a loyal feeling. It is, however, disappointing to find that there are practitioners still existing who wish to be informed as to the principle involved; that if the miners should after a time give 9*d.* instead of 6*d.* per fortnight to the man introduced by them no opposition need be continued; that the dispute is now at an end. But this is not so; the dispute is not ended until the old practitioner is reinstated and the proper remuneration is settled. Again, some ask how long must this condition of strife continue. Our reply to this is the same as stated above—viz., so long as the old practitioner is opposed and the proper remuneration is withheld.

I have written all this at some length in order to explain clearly our position, and trusting to the good spirit of your readers that we shall have the help and sympathy of the whole of the profession.

I am, Sirs, yours faithfully,

EDWARD JEPSON,
President, County of Durham Medical Union.

Durham, April 15th, 1903.

BLISTERING IN CHRONIC SKIN DISEASES.

To the Editors of THE LANCET.

SIRS,—Dr. G. Norman Meachen[1] has kindly given the information which I failed to obtain from the latest dermatological text-books in my possession. I was not aware until now that vesication had ever been attempted with a view to eradicate psoriatic patches. It might interest Dr. Meachen to know that patient No. 3[2] is still under treatment by vesication, and that during the past fortnight several commencing patches of psoriasis on the face, back of hand, and at junctions of the ear and scalp have disappeared after *one* good blistering. When a patch is large and to all appearance stationary, it seems that liquor epispasticus has to be applied on two or three occasions ere any blistering effect is produced. I may add, in conclusion, that there has been no recurrence of psoriasis on any of the areas cleared by vesication.—I am, Sirs, yours faithfully,

JOHN WISHART, M.B., Ch.B., B.Sc. Aberd.

Bedlington, R.S.O., April 18th, 1903.

ETHYL CHLORIDE.

To the Editors of THE LANCET.

SIRS,—I wish to correct an omission in the printing of my article on ethyl chloride in THE LANCET of April 4th, p. 952. The shortest case of anæsthesia in the 77 dental cases is stated to be 3 seconds, whereas really it was *30* seconds. This is an important difference. Perhaps I may be allowed to say that Messrs. Duncan and Flockhart are now making pure ethyl chloride, free from methyl chloride, for inhalation. Thanking you in anticipation, I am, Sirs, yours faithfully,

Birmingham, April 20th, 1903. W. J. MCCARDIE.

*** It will be seen on close inspection that the apparent error was due to a failure of the character 0 to print and not to its being left out.—ED. L.

A PROTEST AGAINST *DIRT*.

To the Editors of THE LANCET.

SIRS,—In these days, when the sterilisation of everything from milk to toothpicks and postage stamps is demanded, it gives one pause to notice the small concern there seems to be for cleanliness as opposed to filth. I allude to the absolutely disgusting circumstances attending the delivery of food in London. Meat and fish are frequently carried on open platters exposed to dust and dirt of all kinds. Bread is put in a basket slung over the carrier's shoulder, where it rubs against his not too clean coat. If he wishes to rest the basket is put down and for the better comfort of the carrier he sits in it, bread and all. The other day I saw an elaboration of this method, the boy sitting upon a loaf which he had taken from the basket and placed on the pavement. I may

[1] THE LANCET, April 18th, p. 1126.
[2] THE LANCET, April 11th, p. 1030.

be faddy but I do not think I would want that loaf. To-day I saw a basket of rhubarb and green vegetables left on the sidewalk while the boy in charge of it was down an area. A dog coming along realised his opportunities and took full advantage of them. As in the case of the loaf, I would prefer not to eat those vegetables.

Now these things are quite avoidable and should be prevented. Surely if in some cases meat and fish must be delivered on an open platter the articles might be wrapped in clean brown paper before leaving the shop. Shopkeepers might be a little more particular about their errand boys; and, above all, if the public expressed a decided preference for having their food delivered in a clean and decent manner they would soon have it so. In the cooking no doubt the risk of microbic infection is reduced to a minimum, but I am not inveighing against microbic dangers but against dirt—easily avoidable, entirely unnecessary *dirt*.

I am, Sirs, yours faithfully,
FREDERICK R. WAINWRIGHT.

Kensington Park-gardens, W., April 18th, 1903.

A SUGGESTION FOR THE MORE EFFICIENT CONTROL OF THE FOUL AIR OF SMALL-POX HOSPITALS.

To the Editors of THE LANCET.

SIRS,—In consequence of the increasing difficulty in finding suitable and convenient sites for the erection of small-pox hospitals and of the increasing alarm with which they are regarded by the inhabitants in the neighbourhood of their proposed erection the feasibility has occurred to me of a system of below-the-surface-level or underground wards, bath-, dressing-, and disinfecting-rooms, ventilated by an up-cast shaft and furnace, which in spite of some obvious drawbacks I still venture to bring forward. (The spent air might also be screened before passing through the furnace.) The other buildings, including a nurses' block (living- and sleeping-rooms), would be above ground as at present.

A further question also arises on the score of economy and convenience: the possibility of building, within the same inclosure on the outskirts of a town, a fever hospital and small-pox wards (underground) worked by a central administrative block and staff, the nursing staffs, of course, being kept separate and distinct.

I am, Sirs, yours faithfully,
Preston, April 20th, 1903. WALTER F. MOORE.

TROPHIC AREAS AND THE INCIDENCE OF CARCINOMA.

To the Editors of THE LANCET.

SIRS,—From the report of the meeting of the Pathological Society of London held on April 7th[1] it would appear that I inferred that in spite of the evidence brought forward by Mr. G. L. Cheatle the locality of congenital fissures was of more importance as a possible factor in the incidence of epithelial growths than the distribution of nerves and trophic areas. What I intended to convey was that it seemed to me in many instances of rodent growth about the face, and possibly elsewhere, that congenital clefts might be a factor of incidence, while nerve distribution might be a factor of limitation of extension. I see no reason why in this particular growth these two factors should not go hand in hand. I much regret that Mr. Cheatle had no opportunity of replying to my suggestion. I am, Sirs, yours faithfully,

Harley-street, W., April 21st, 1903. W. MCADAM ECCLES.

*** The following are the remarks in reply which Mr. Cheatle would have made had he had the opportunity of speaking.—ED. L.

MR. CHEATLE'S REPLY.

I presume that any epithelial cell is a possible focus for the incidence of cancer, whether it is due to a congenital cell inclusion or not. I cited cases in which rodent ulcers appeared multiple on the area of distribution of one fifth cranial nerve and others in which the rodents appeared multiple on the two fifth nerve areas, and in all these cases no rodent ulcer existed in any other part of the body, cleft or otherwise. At the same time I admit that some of the cancers in these cases appeared in the position of clefts, but there were also cancers which originated where no clefts existed. I make no statement as to whether cancers do or do not more frequently appear in the position of clefts than elsewhere. I only wish to point out that the breakdown of the cell or cells into carcinoma may possibly be due to some direct or indirect nervous or trophic influence over the area in which it occurs, and this apart from all influence upon the spread of cancer.

[1] THE LANCET, April 18th, p. 1101.

THE SURGICAL TREATMENT OF PUERPERAL PYÆMIA.

To the Editors of THE LANCET.

SIRS,—I have read Mr. E. Michels's paper on the Surgical Treatment of Puerperal Pyæmia in THE LANCET of April 11th, p. 1025, with very great interest, as it is the first case reported in England that realises a suggestion of mine—viz., the ligature of the thrombosed vein in such circumstances. In 1898 I published a paper on Intravascular Coagulation in the Edinburgh Hospital Reports and in it the following remark was made: "During the earlier stage, in some cases of sepsis after labour or abortion, would it be practicable to explore the iliac veins and apply a ligature, as has been done so successfully in the case of septic thrombosis of the internal jugular vein?" This question has doubtless occurred to many others and everyone must congratulate Mr. Michels on the successful termination of the first case in this country.

I am, Sirs, yours faithfully,
Cambridge. J. CHRISTIAN SIMPSON, M.D. Edin.

THE CASE OF MR. J. W. AYRES.

To the Editors of THE LANCET.

SIRS,—Your readers will doubtless remember well the case of Mr. J. W. Ayres, L.R.C.P. Edin., L.S.A., of Farnworth-street, in this city. In the spring of 1902 Mr. Ayres was convicted of manslaughter and was sentenced to four months' imprisonment. Despite this conviction the General Medical Council allowed Mr. Ayres to retain his name upon the Medical Register and this decision was undoubtedly arrived at on consideration of the facts of the case. These facts were fully set out in your report of the proceedings of the December session of the Council which was reported in THE LANCET of Dec. 6th, 1902, p. 1587. Shortly, they were these. A man named Baines who had been in the service of Mr. Ayres was discharged for drunkenness. Three days later Baines came to the surgery, being intoxicated, and demanded to know why he had been discharged. Mr. Ayres ejected him and shut the surgery door and returned to his consulting room. Then noticing Baines's hat on the table went out into the street and gave it to him. As he handed the hat to him Baines put up his hand and Mr. Ayres, in warding off what he thought would be a blow, caused Baines to trip and fall. Baines was able to walk home and received no medical attendance for six days. Then the parish medical man was called in and Baines was removed to the hospital. Death took place on the tenth day after the fall. At the post-mortem examination a fracture through the sphenoid bone was discovered, while the kidneys and the heart were found to be markedly diseased. At the trial the jury found the prisoner guilty, but they asked for a lenient sentence on the ground that there had been the greatest provocation. Mr. Ayres was, however, sentenced to four months' imprisonment, notwithstanding that he had already been ten weeks in prison.

I am anxious to appeal through your kindness in the columns of THE LANCET to the generosity of the medical profession on behalf of Mr. Ayres. He is 60 years of age and he has five children and a wife practically dependent upon his earnings. His health has been broken by his sentence and he has had to give up all night work. I ask for a generous response to an appeal on behalf of a sorely tried professional brother. Subscriptions will be received and acknowledged by Mr. O. Morley Roberts, 67, Lord-street, Liverpool. I am, Sirs, yours faithfully,

Liverpool, April 18th, 1903. A. AYRES.

FREE ANTITOXIN TO THE MEDICAL PROFESSION.

To the Editors of THE LANCET.

SIRS,—In a recent issue of THE LANCET I see the statement that at Hanley antitoxin has been lately supplied free of charge to medical practitioners for use as a prophylactic in cases of diphtheria and that this is probably the first instance of the sort in an English sanitary area. The States of Guernsey have, however, done the same for the last three years and in this respect are apparently pioneers in preventive medicine.—I am, Sirs, yours faithfully,

April 6th, 1903. M.O.H. (Guernsey).

DISCRETION IN PRESCRIBING.

To the Editors of THE LANCET.

SIRS,—The remarks of Dr. Nestor Tirard on hypnotics in THE LANCET of April 11th, p. 1022, excite an uneasy feeling whether the whole practice of prescribing does not need revision and reform. The general practitioner can get into a bad habit of hypnotising his patients with drugs, as this is easier and more often in demand than a carefully thought-out line of "masterly inactivity" or far-seeing *régime*, but he at least has it in his power to stay his hand if he makes his own medicines when the signals point to danger. The consultant, or he who does not dispense, on the other hand, once he has committed his directions to writing, which becomes the absolute property of the patient, ceases to be able to withdraw them from circulation or from repetition at the will of the patient. If we write a cheque we can "cross" it or make it "not negotiable," and almost everything that a lawyer commits to paper or parchment is safeguarded against abuse, and yet it is the medical man whose writing may spell, if abused, as it often is, either death or disaster beyond his ken. I do not know the precise legal aspect of a prescription, but why this *cacoethes scribendi* on the part of the prescriber? Why should he not make sure that his prescription shall be used only as he intends and by those only whom it is meant for? A general practitioner of my acquaintance who does not dispense secures this by sending all his prescriptions to a certain chemist with whom he has an arrangement that these should be copied out and retained, no charge being made to the patient by the chemist and no prescription ever repeated except by an order from the medical man. The plan works well for all concerned and is not very costly to the medical man and yet well worth the chemist's while. If necessary the chemist will send the medicine. But where ordinary prescribing is done, as by the consultant, why should he not initial and date his prescription and underneath add the letters s.q.n. ("sine quibus non [miscenda]")? If he wishes a certain number of doses to be taken before seeing the patient again he can order so many to be dispensed and the letters s.q.n. will warn the chemist to dispense no more until he is ordered by a fresh prescription or by re-dating or initialling the old one. An out-of-date prescription could not then be made up for anyone presenting it except, of course, at the chemist's own risk, and to do so would come to be regarded as "unprofessional" dispensing—in reality, illicit prescribing. If a consultant sees a patient sent to him by his medical attendant the prescription should be sent to the latter, not given recklessly to the patient himself. As illustrating the absurdity of present methods an old lady (now in her ninety-first year) was prescribed for some 20 years ago by an eminent man. A pill was ordered and a little whisky for her stomach's sake. The pill has been long discontinued, but the "stomachic" is still in use, and though the letter, not the spirit, has been departed from—for it now amounts to two gallons of whisky per month—steadily and regularly. The case illustrates the dictum that alcohol is "a *slow* poison," and any remonstrance is met by the answer that the prescriber was physician to the then Prime Minister. Verily "*verbum sapienti satest.*"—I am, Sirs, yours faithfully,

April 21st, 1903. CIRCUMSPICE.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—Dr. W. Mitchell of 21, Park-lane, Little Horton, Bradford, Yorks, has called my attention to the fact that the reference in my book entitled "A Third Pot-Pourri" to him as recommending vegetarianism to his patients is not warranted by facts and is calculated to injure his standing in his profession and affect his practice. I made the statement on the authority of another gentleman and did not, as I suppose I ought to have done, check the correctness of the information. I have already offered Dr. Mitchell my sincere apologies. Would you, Sirs, help me by inserting this letter to repair the error which my publishers will correct in all future copies! I am, Sirs, yours faithfully,

MARIA THERESA EARLE

Sloane-gardens, S.W., April 22nd, 1903.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Medical Charities.

HOSPITAL Saturday has been fixed for May 2nd, and the Red Cross Society, which is the workmen's branch of the Hospital Sunday and Saturday Fund, has issued an appeal to the public. Last year the expenses of the 20 medical charities aided by the Fund exceeded the income by £13,000, and the hope is expressed that this will be made good. The war is now happily over and there is nothing very special to divert public sympathy, but it will be a considerable step from £4171, last year's collection, to £13,000.

Coöperators and Convalescent Homes.

Some time ago a scheme for establishing convalescent homes by coöperators from societies in Lancashire, Yorkshire, and Cheshire was started. It was to be for the use of members of those societies in the north-western section. A home was to be established at Norbreck, near Blackpool, at a cost of £25,000. This scheme was perhaps too ambitious and it was opposed by some large societies in the section, so that it has been abandoned. A largely attended conference of coöperators met, however, on April 11th in Manchester to consider the matter. In the discussion the principle of the establishment of these homes was unanimously indorsed and ultimately a motion was carried declaring in favour of the establishment of two homes, one in Yorkshire and one in Lancashire, at a cost of from £10,000 to £12,000 each, and urging the committee to prosecute the work in the most vigorous manner possible. It may be hoped that this attempt will fare better than the first did and it is satisfactory to see that the principle of self-help is not yet lost among the better sort of the working classes. In a paper read by one of the members it was maintained that "such homes should, in his opinion, be provided, not only because of the material benefits they conferred, but as an exemplification of the higher moral duties of coöperators in helping the poorer and weaker brethren and freeing them from the necessity of asking alms from the employer and rich classes who mainly supported existing convalescent homes." If such ideas were more widely spread there would be less hospital abuse than now prevails. But if the new scheme is to succeed it must be more warmly taken up by the societies than the abortive one was, in which the total amount of capital promised towards the £25,000 required was £2766.

The Small-pox Epidemic.

Small-pox is still prevalent in Lancashire. In Burnley 35 cases have occurred in the last seven days, and extension of the hospital accommodation is being hurriedly carried on, as it is at present quite inadequate. There have been eight cases at Heywood, chiefly among school children. Three public day schools have been closed. In Oldham no fewer than 10 cases have been reported from the workhouse since Friday last. Another case has been notified in Manchester from an entirely new district. Two more cases have occurred in Salford, bringing the total to 100. Stockport was said to be free yesterday for the first time in four months.

Midwives and Death Certificates.

The following case, as reported in one of the Manchester papers, indicates a danger to the public likely to increase rather than to diminish as the result of the recent Act affecting midwives which seems to invest them with a *quasi*-medical position. An inquest was held recently in Manchester by Mr. L. J. Aitken, the acting coroner, respecting the death of a baby accidentally suffocated in bed. The mother stated that six other of her children, though living for periods up to 10 hours, had been certified for burial by the midwife. Mr. Aitken, therefore, had the midwife in question before him on April 17th. The coroner's inspector told the court that when he visited the midwife's house to warn her to attend she told him that "her position entitled her to give a certificate that a child was stillborn, provided that it died within 24 hours after birth." As her view of the rights and privileges of midwives may be shared by others, perhaps it would be well for the societies which give diplomas to midwives to institute lectures, examinations, and diplomas or certificates in medical jurisprudence so that the *protégées* may be guarded against very serious errors. However, when before the

coroner she said that that was not her meaning. "What she did say, or should have said, was that she never gave any certificates for children born alive, but if a child did not live 24 hours she was always taught she had a right to give a certificate to the registrar." It would be interesting and instructive to know something more about her teachers in logic as well as jurisprudence. The mother now also varied her statement, saying that she had had six children born alive. A medical man's certificate was obtained for one and an inquest was held on another. Mr. Aitken then adjourned the inquiry, observing that there were still four children to be accounted for, and "that he was determined to get to the bottom of the affair." In a certain section of the community very little value is attached to infant life and it is to be feared, to put it very mildly, that a good many midwives belong to that section. Manchester, though not the worst, does not hold a good position among the 76 great English towns as regards infant mortality, for, as Dr. J. Niven's last quarterly report tells us, the deaths under one year were 181 per 1000 births during the quarter for the city, while in the old township of Manchester, which generally maintains a bad pre-eminence, it was 198 per 1000. But if the death-rate of this family represented the mortality of even the old township, there would be a still more grievous loss of infant life.

Health Protection Budget.

The estimates for the current year were presented yesterday at a meeting of the sanitary committee of the Manchester corporation. The total expenditure anticipated is £84,283. The nuisance department costs £17,869; unhealthy dwellings, £22,209; hospitals and infectious diseases, £43 023: Sale of Food and Drugs Act and Canal Boats Act, £1182. Last year however, the sum of £4312 of the estimate was not expended, so that when deducted from the current year's estimate the latter will be brought down to £79,971. The estimate of the cleansing committee for the year is £146,288. These are large sums, but Manchester is a great work-a-day city. These committees do their work well and deserve the thanks of the community and if we count the cost of the safeguards of the public health it is worth while to try to picture the state of things if the work were not done.

The Scare as to the Pollution of Shell-fish.

To show the effect of the dread of typhoid fever from polluted shell-fish, perhaps the following passage may be quoted from the report of the superintendent of the Lancashire and Western Sea Fisheries for the quarter ending March 31st last: "Not only the weather but also the shell-fish pollution scare has adversely affected the mussel fishery. At Conway the demand fell off very considerably and many of the mussel gatherers took to line fishing for codling. Mr. Jones, fishery officer, Carnarvon division, reports that the weight of mussels sent off by rail fell off as much as 50 tons per month as compared with the corresponding period of last year."

April 21st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Llandaff and Dinas Powis Health Report.

THE voluntary notification of cases of pulmonary tuberculosis has been in force in the Llandaff and Dinas Powis district for nearly two years, but the medical officer of health of the district (Dr. R. Prichard) in his recently issued report states that the system is practically a dead letter, as he only received one certificate during 1902, although there were 16 deaths registered as due to the disease. The medical practitioners of the district decline to notify unless the disease is included in the list of those compulsorily notifiable under the Infectious Diseases (Notification) Act. In his remarks upon the treatment of patients suffering from pulmonary tuberculosis Dr. Prichard says that there appears to be little prospect of a sanatorium being provided in the neighbourhood of Cardiff at an early date for the isolation and treatment of the poorer class of cases, but that as tuberculosis is an infectious disease the proper authorities who should deal with it are those who are empowered to build hospitals under Section 131 of the Public Health Act, 1875. It is of interest to record the fact that Dr. Prichard, who has hitherto been subject to re election as medical officer of health every three years, has now on the suggestion of the Local Government Board been appointed permanently.

Death of Dr. James Mathias Phillips.

Through the death on April 14th of Dr. James Mathias Phillips the town of Cardigan has lost not only its oldest practitioner but also one of the most prominent and public-spirited of its inhabitants. Dr. Phillips was born in 1838 and received his medical education at the Middlesex Hospital and the University of Aberdeen, becoming M.R.C.S. Eng. in 1861 and graduating as M.D. in 1867. He began to practise in Cardigan in 1873, prior to which year he was surgeon to the Morfa collieries and to the Port Talbot tinworks. For many years he was Poor-law medical officer and public vaccinator to the Cardigan union and was at one time surgeon to the Royal Naval Reserve. His professional work did not prevent his taking part in the public life of the town, of which he was at one time the mayor; he was also on the commission of the peace for both the county and borough. The public funeral accorded him testified to the respect and esteem in which he was held by his fellow townsmen. He is survived by his widow, a daughter, and a son who is the resident surgeon of the Kasr-el-Aini Hospital in Cairo.

Appointment of County Medical Officer of Health for Gloucestershire.

At the meeting of the Gloucestershire county council held on April 13th Dr. J. Middleton Martin was appointed medical officer of health of the county. Dr. Martin will retain his present position as medical officer of health of the Stroud urban and rural districts and will receive from the county council 50 guineas yearly for summarising the reports of the district medical officers and for reporting on the health of the county; he will also be paid a fee of two guineas for attending meetings of the council or its committees and of three guineas daily when he visits under the instruction of the council districts outside his own. The population of the administrative county at the last census was 331,516, an increase of 7536 persons over the previous census. There are 13 urban (including one municipal borough) and 22 rural districts in the administrative county and there are 20 medical officers of health. There was practically no opposition to Dr. Martin's appointment, a motion to postpone consideration of the question which was proposed by one county councillor not even being seconded.

The Causation of Typhoid Fever.

At a meeting of the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health held at Stroud on April 16th Major Robert Caldwell, R.A.M.C., introduced a discussion on the causation of typhoid fever apart from water-supplies and instanced his experience while in charge of troops at Korosko, a small Arab settlement 800 miles south of Cairo. The camp was in a high state of sanitary efficiency but no special precautions were taken with regard to the water-supply and the troops were singularly free from sickness of any kind. Six months later he was at Korosko again and found the tents had been almost entirely replaced by huts and that many comforts were now obtainable which formerly were unknown but typhoid fever and dysentery were rife, the continual occupation of the ground in a district where vegetation was deficient most probably favouring the spread of the disease. Major Caldwell's experience in South Africa strengthened his opinion that conditions other than water-supply were considerable factors in the production of typhoid fever among the troops and he referred to instances in Natal where the disease followed the continual use of the same ground for camping purposes. He thought it not improbable that a non-pathogenic bacillus owing to the contamination of the soil might become virulent. Although he considered it necessary to procure a supply of "safe" water for troops on service he thought that disappointment would ensue if conditions other than the water-supply were overlooked and among such conditions pollution of the soil should occupy a prominent place. In the course of the discussion Dr. D. S. Davies of Bristol said that he could quite believe that the typhoid bacillus might exist in a harmless form in virgin soil and become virulent under the conditions described by Major Caldwell, and Dr. J. Howard-Jones stated that at Newport (Mon.) isolated cases of typhoid fever were more generally due to contamination of soil than to water-supplies.

Association of Public Vaccinators.

At a meeting held recently at Weymouth under the presidency of Mr. J. R. Philpots it was decided to inaugurate

a Dorset branch of the Association of Public Vaccinators. Mr. Philpots was elected chairman of the branch and Dr. Lawson was elected secretary.

April 21st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Enteric Fever in Glasgow.

A REPORT has been presented to the health committee by the medical officer of health (Dr. A. K. Chalmers) submitting a report by Dr. F. Dittmar on the distribution of enteric fever in the eastern district of Glasgow from 1897 to 1901. Dr. Chalmers in his introductory report deals first with the increased death-rate from enteric fever during the period 1891-1900. This is shown by the following figures which give the average annual rate per million for the whole city for each quinquennium during 20 years: 1881-85, 325; 1886-90, 185; 1891-95, 198; and 1896-1900, 242. The higher death-rate in the latter periods, especially the last, was not due to the greater fatality in individual attacks but was associated, as is shown in the report, with the greater prevalence of the disease. It is many years, as Dr. Chalmers points out, since Buhl applied to enteric fever Pettenkofer's observations on the relationship between the level of the ground water and the incidence of cholera. In the present instance we have the suggestion that there has been some association between the increased prevalence of the disease and years of increased rainfall. Thus, while in the years 1891-96 the average annual fall was 36·1 inches, during 1897-1901 it was 41·8, and, further, the wettest years, 1897 and 1900, were each followed by one of exceptional prevalence of enteric fever. The prevalence follows rather than coincides with the rainfall in any given year, the prevalence being related not to the amount of rain which falls throughout that year but to the quantity which falls in the early months. Thus the increased rainfall during the years 1897-1901 arose almost wholly from an excess falling in the first half, but especially in the second quarter of each year, while the cases of enteric fever occurring in the third and fourth quarters formed 66 per cent. of the total yearly number, as compared with 60 per cent. for the same quarters of 1891-96, the earlier months of which were much drier. The relationship of the prevalence of the disease and rainfall, however, as is pointed out, is not a simple one and would appear to be influenced by prevailing temperature, especially in the second and third quarters. But temperature and rainfall are not direct causes and Dr. Dittmar undertook an investigation with the view of ascertaining what connexion might exist between cases of enteric fever which in point of residence had a local association. The eastern district of the city was chosen, partly for its considerable size in point of population and also because it afforded an opportunity of contrasting the behaviour of the diseases in houses supplied with water-closets with those where middens still existed. The following abstract from Dr. Chalmers's report will show some of the more important results of Dr. Dittmar's investigation. In his analysis the term "secondary infection" is restricted to cases occurring in the infected household within the accepted limit of the period of incubation, and he finds that the proportion of these is least in one-apartment houses. This, as he points out, is most obviously related to the almost uniform practice of removing cases in these circumstances to hospital. But leaving those which may be regarded as direct infections, he found that in 71 tenements in which the disease recurred after the period of incubation had passed the recurrence took place in 12 families living on the same floor as the formerly infected house and in 47 families living on different floors of these tenements. And in considering the incidence of these with reference to the methods of excrement disposal his inquiry repeats the experience which has directed the policy of the committee of health in this respect for years. Recrudescence of the disease occurred in 23 per cent. of the invaded tenements which were dependent on dry or conservancy methods of dealing with excreta, and in 6 per cent. only of those supplied with water-closets. Regarding the former class the policy is already formulated and only requires to be persistently followed. Every midden is a potential centre for the spread of enteric fever and the more recent knowledge that infection may be voided in the urine serves to emphasise the unsuitability of these structures for town populations. In the process of emptying it is impossible to avoid surface pollution, and disinfection of the surrounding area is rarely practicable. On the other hand, the association of a small proportion (6 per cent.) of recurrent cases with properly constructed water-closets suggests the lack of a right appreciation of the uses to which these fittings may be put and illustrations are still too frequent in many districts of their abuse. Apart from the repression of this habit the inquiry further points to an extended application of the processes of disinfection. A perusal of Dr. Dittmar's interesting report will supply all the details upon which these observations have been founded.

St. Mungo's College: Appointment of Professor of Midwifery.

Dr. Robert Jardine has been unanimously appointed by the governors of St. Mungo's College to the chair of midwifery. Dr. Jardine is a Doctor of Medicine of the University of Edinburgh, Member of the Royal College of Surgeons of England, Fellow of the Faculty of Physicians and Surgeons of Glasgow, and Fellow of the Royal Society of Edinburgh.

April 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Poor-law Medical Service.

THE Irish Medical Association has at last achieved a certain measure of success in its efforts to improve the wretched conditions under which the medical officers of dispensaries and union hospitals in Ireland perform their important duties. The newly elected and popular boards have not yet learned their responsibilities and are in frequent conflict with their medical officers. The guardians of Dundalk union advertised recently for a medical officer for Dundalk workhouse at a salary of £100. The Irish Medical Association had fixed £120 as the minimum salary. No applicants appeared for the post and a committee was appointed to reconsider the question. On that occasion the guardians were almost equally divided in their votes. A similar deadlock occurred some months ago at Carrickbyrne, when the two candidates for that dispensary refused to accept a less salary than £200. In last July the Edenderry board of guardians appealed against the decision of the county court judge on the question as to the amount that should be paid to a substitute or locum-tenent for his services. It appeared that by a resolution of the board of guardians it was decided to pay one week's leave at £3 3*s.*, with permission to the medical officer to take a further three weeks' leave provided that he paid his substitute. Mr. Justice Madden, in referring to the portion of the resolution which provided that a dispensary medical officer could get only one week's leave on full pay said that it was "grossly unfair and entirely against the spirit of the Local Government Board's regulations." The latest important question between a medical officer and his board of guardians is now being tried in the Nisi Prius court, Dublin, before a special jury and with eminent members of the Irish Bar employed on both sides. In this case Mr. O'Shaughnessy, K.C., with whom was Mr. T. M. Healy, K.C., M.P., stated that the plaintiff, Mr. J. Patrick O'Riordan, dispensary medical officer, sued the guardians of Celbridge union in respect of salary which they had deducted and also in respect of the sanitary condition of the house in which they were by law enabled to compel him to live. After three days' hearing, when several important witnesses were examined—including Sir Gerald Drove, D.L., a former chairman of the Celbridge Union; Mr. D. Coady, consulting medical officer of health of Naas Union; and Sir Charles Cameron, superintendent medical officer of health of Dublin, &c., the jury found for the plaintiff, Mr. O'Riordan, £5 damages in respect of the condition of his house and £56 5*s.* in respect of the deductions from his salary as rent for the time that he was not in occupation of the house.

Ulster Hospital for Women and Children.

At the annual meeting of the friends of the Ulster Hospital for Women and Children, held on April 7th, it was reported that during 1902 231 cases were admitted into the children's wards and 1682 were seen in the extern department, while in the women's department there were 84 intern and 313 extern cases. The maternity nurse attended 151 cases. The

total number of cases to which the hospital afforded relief was 2466. The hospital is in debt to the extent of £1900.

The New Royal Victoria Hospital, Belfast.

A great public meeting, promoted for the purpose of enlisting active sympathy in the adequate endowment and maintenance of the new Royal Victoria Hospital (which will be opened during the summer), took place on April 20th in the great Ulster Hall, Belfast. Mrs. W. J. Pirrie (during whose year of office as Lady Mayoress the idea of founding a hospital to commemorate the late Queen's Jubilee was started) presided, and there was an immense audience crowding all parts of the building and consisting of the leading citizens and of representatives of the commercial, professional, and industrial classes. Among the speakers were Mrs. Pirrie, the Marquis of Londonderry, K.G., Mr. G. Wolff, M.P., the Right Hon. T. Sinclair, D.L., the Lord Mayor, and the High Sheriff of the city of Belfast, representatives of the various churches and of the working classes, while the medical and surgical staff of the hospital selected as their speakers Dr. J. W. Browne and Professor J. W. Byers. Mr. A. M'Dowell, clerk of the peace for the city of Belfast, acted as honorary secretary of the meeting, and to him largely is due its very great success. The feeling of the meeting in reference to the support of the new hospital was in favour of making an increased effort to meet the additional expenditure, while all idea of putting the scheme on the city rates was scouted by those present. Mrs. Pirrie, before the vast audience separated, was able to announce that with the additional subscriptions she had lately received the total amount of the building and endowment fund of the new hospital was £139,249 3*s.* 4*d.* and it was expected that large additions would be made. From a medical point of view the new hospital will in its architectural arrangements be much in advance of, and superior to, any of its size in the United Kingdom, while, as pointed out by several of the speakers, it will be a very great gain as a factor in the Belfast Medical School. The very greatest credit is due to the Right Hon. W. J. Pirrie and Mrs. Pirrie for the splendid way in which they have managed to bring to such a successful issue this great scheme to commemorate the late Queen Victoria's glorious reign.

April 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Political Opinions of the Hospital Medical Staffs.

THE medical men attached to the Paris hospitals are greatly excited by a new move on the part of the administration. The youngest—that is to say, the most recently appointed—members of the medical staff have had to appear before the mayors of their respective *arrondissements*, there to answer questions concerning their political opinions and as to the schools to which they send their children. Never before have any such measures been carried out and the medical men consider that they are quite beyond the power of the administration. When, as is the case with these medical men, from 10 to 15 years have been spent in education and a severe examination has been passed it is hard that the confirmation of the appointment should depend upon the results of an inquiry into the political opinions of the nominal holder of the post. On all sides protestations are heard from those who consider that the medical men who care for the sick should be free to do their work and to think as they like in so far as their private life is concerned.

Sterilised Milk in the Treatment of Infantile Atrophy.

At the meeting of the Hospitals Medical Society held on April 3rd M. Variot pointed out the excellent results obtained by feeding young children upon milk sterilised under pressure at a temperature of 108° C. M. Variot gave as an example the case of an infant who when six months of age weighed only three kilogrammes and who was suffering from atrophy. The child was put upon milk sterilised under pressure at a temperature of 108° C. 14 months later the child weighed eight kilogrammes, had begun to walk, and showed no signs of rickets. M. Variot further stated that in a period of eight years he had distributed 300,000 litres of milk sterilised in this fashion, had observed its effects on 1500 children, and in no one of these was there any sign of scurvy.

Magnificent Legacy to the Assistance Publique.

The Assistance Publique has just received a generous legacy from M. Bigottini, a rich inhabitant of Auteuil. He left the Assistance his whole fortune except 200,000 francs which has been allocated towards the support of an asylum for persons suffering from tuberculosis.

The Treatment of Tetanus.

M. Bazy, who had been appointed by the Society of Surgery to report upon a case of tetanus under the care of M. Mauclaire, read his report before the society at the meeting held on April 8th. The patient was a man who 15 days after having been bitten by a horse had had his arm amputated at the shoulder-joint. Two preventive injections of anti-tetanic serum had been given on the day after the bite and one on the next day. But 17 days after the bite the man showed signs of tetanus. He was treated with large doses of chloral and by repeated bleeding and was also given a third injection of serum when the tetanic symptoms appeared. On the twenty-fifth day after the tetanic symptoms had appeared he was quite well. M. Mauclaire has given details of 12 cases of tetanus in which there were 10 deaths and two recoveries. Arguing from the treatment applied in the two last cases M. Mauclaire considers that preventive injections attenuate the poison and that bleeding also plays a part in the cure.

April 21st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Public Medical Services in Berlin.

A MEETING of medical men was recently held in Berlin at the instance of the "Free-choice" Society for the purpose of considering the various systems at present followed in the public medical services of the city, with a view to make suggestions for their improvement. In the result a petition containing recommendations on the following points was drawn up for transmission to the Berlin municipal authorities. 1. The arrangements for the treatment of patients under the poor-law require alteration. At present each poor-law district has one medical officer who is appointed by the municipal council and receives a fixed salary, but it is now suggested that the "free-choice" system which was extensively applied in club practice should be made the rule in poor-law practice also. The attention of the authorities was at the same time drawn to the fact that the late Professor Virchow had advocated this method as long ago as 1848 and that some of the smaller towns in Germany had already adopted the "free-choice" system for their poor. 2. Another recommendation referred to the medical and surgical staff of the municipal hospitals. The three great municipal hospitals—the Urban Hospital, the Moabit Hospital, and the Friedrichshain Hospital—contain respectively 631, 993, and 753 beds and are usually overcrowded almost all the year round. At the present time only two chief physicians and one chief surgeon are appointed for each of these hospitals, but there are, of course, a number of assistant physicians and assistant surgeons. The consequence is that a chief surgeon together with his assistants has to attend more than 300 patients, a number which is evidently too great, and the petitioners therefore recommend that additional chief medical officers should be appointed to these three hospitals so that the number of patients treated by each of them should not exceed 150. Provision ought also to be made for special departments, which as yet have been formed only in the Royal Charité Hospital and in the university clinics but not in the municipal hospitals. 3. The next recommendation related to medical supervision of the municipal schools. In German towns and cities other than the capital any questions involving the hygiene of schools and the health of the children have for a long time been dealt with by specially appointed medical men, but this method was not introduced into Berlin until three years ago and then in only one district of the city as an experiment, with a staff of 12 medical men each of whom attended two schools. The scheme is now considered to have passed the experimental stage and the system is to be extended to the whole city; 30 medical officers will be appointed at salaries of 2000 marks (£100) and each of them will attend seven schools. The duties of a school medical officer are somewhat heavy, including the supervision of the hygienic arrangements of the premises, careful examination of new pupils, selection of weak-minded and defective children for instruction in special classes, the

making of the arrangements which become necessary in time of epidemics, and last, but not least, the preparation of reports for the school board. A medical officer who is anxious to do his duty must therefore either give nearly all his time to the school work (which is practically impossible on a salary of £100 a year) or else the amount of the work must be lessened. The petition of the "Free-choice" Society proposed that every girls' and boys' school should have its own medical officer and that the number of medical officers appointed should be 200 in place of 30. 4. The next paragraph of the petition recommends that the municipal authorities should appoint a chief medical officer as head of the entire medical service of the city of Berlin. He ought to have an adequate salary and it would be his duty in conjunction with his subordinates to advise the municipal council on questions concerning hygiene, water-supply, the construction and management of hospitals, infirmaries, and lunatic asylums, and other matters of a like kind. At present there is no medical man having responsibility in these particulars, the work being undertaken partly by persons possessed of no medical knowledge and partly by town councillors who happen to be medical men although they have not been elected to the council in virtue of their professional attainments. The majority of German towns have their recognised advisers in matters of public health and are provided with laboratories where bacteriological and chemical investigations can be carried on, but in the metropolis these conditions do not exist and when such investigations become necessary it is only by the courtesy of the heads of the university laboratories that they are made. 5 The concluding paragraph deals with the method of applying for appointments in the Berlin municipal service. After making an allusion to some unfortunate events which have taken place on the occasion of appointments becoming vacant in the municipal hospitals the petition recommends that canvassing should be strictly prohibited and that vacancies should be publicly advertised. Finally, the petitioners state that in the task which they have set themselves they have been actuated solely by regard for the interests of public health and not by any undue sympathy for the medical profession.

The Antipyretic Treatment of Typhoid Fever.

Professor Valentini, chief physician of the Deaconesses Hospital at Danzig, in West Prussia, has published in the *Deutsche Medicinische Wochenschrift* a very favourable account of the results which he has obtained in the treatment of typhoid fever with pyramidon. He points out that the treatment by means of cold baths, which has for many years been used almost everywhere, requires a fully trained nursing staff and therefore is not always available in private practice. Cold bathing, moreover, is not suitable for indiscriminate application and has been known to produce collapse. The internal administration of pyramidon yields equally good results with much less fatigue and discomfort to the patient and much less work for the attendants. The temperature becomes normal, the frequency of the pulse decreases, cerebral symptoms such as delirium disappear, and a great change for the better in the patient's condition is apparent in from 24 to 36 hours. The dose of pyramidon is 0·2 gramme (three grains) in mild cases and 0·3 or 0·4 gramme in severe ones. These doses should be given regularly every two hours day and night until the temperature becomes normal. In mild cases the cerebral symptoms usually disappear very soon and the patient's mind becomes quite clear after 24 hours' treatment; in severe cases attended with unconsciousness the improvement in the cerebral symptoms does not show itself until after the lapse of about 48 hours, when the patients become able to answer questions and to drink without assistance; the effect on the pulse was, of course, less marked than in the mild cases. The temperature became normal in every instance after a sufficiency of the remedy had been given. The treatment ought not to be commenced until the diagnosis is certain and must then be continued for three or four weeks; after this it may be stopped and the effect carefully watched so that it may be resumed if there is any recurrence of pyrexia. Dr. Valentini treated 19 cases by this method with two deaths, one of which was due to pyæmia and the other to cardiac debility. No ill-effects or undesirable sequelæ were observed. Pyramidon does not seem to have a specific influence on typhoid fever. Its action is palliative and it does not shorten the course of the disease.

April 20th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Dissensions in the United States Red Cross Society.

As a result of public criticisms of Miss Clara Barton's management of the United States Red Cross Society the official organisation has suspended from active membership the more prominent of the malcontents. These include General John M. Wilson, U.S.A., retired, who last year was vice-president of the society; ex-Secretary of State John W. Foster; ex-Secretary of the Navy Hilary A. Herbert; Rear-Admirals Van Reypen and Ramsay, U.S.A., retired; and Mrs. Anna Roosevelt Cowles, sister of President Roosevelt. All the above-mentioned are Washington members of the Red Cross who presented a memorial to Congress protesting against the present methods of managing the Red Cross Society. The signers of the memorial asserted that the affairs of the society by recently adopted by-laws were placed wholly in the hands of its President, Miss Clara Barton, and the object of the memorial was to endeavour to bring about a reorganisation of the society through the retirement of Miss Barton from the active presidency to the honorary presidency on an annuity.

Political Control of New York State Charitable Institutions.

The Governor of New York State has caused to be passed laws which will oust the Charity Organisation from any control or supervision over the various State institutions. The new method of management is termed a centralisation scheme, under which the expenditure of about $2,500,000 (£500,000) annually granted for supplies to State hospitals, charitable and reformatory institutions, and prisons will be in the hands of politicians. The medical journals of the State have been unanimous in condemning the scheme.

Hydrophobia in Chicago.

There has been a considerable amount of hydrophobia in some American cities of late. New York city has had several cases and there have been more in Chicago. Dr. Arthur Dean Bevan recently read a paper before the members of the Chicago Hospital Society entitled "Hydrophobia Prevalent in Chicago: Measures for Prevention." In the course of his address Dr. Bevan said that the report of the local Pasteur Institute showed a total of 1838 persons treated in the past 12 years. Of these, only seven died, an admittedly brilliant result. He, however, was somewhat sceptical as to the good effects of the treatment, owing to the difficulty of establishing the fact that the animal producing the bite was mad and because of the impossibility of determining the actual proportion of cases developing from the bites of infected animals. Nevertheless, he was convinced that the Chicago dog-muzzling law was inadequate. The speaker went on to say that there have been 91 known deaths from rabies in Chicago since 1891, although he was not satisfied that these figures represented the full mortality from that cause. He designated the city dog-law as stupidly inefficient, inasmuch as it was inactive between Nov. 1st and April 1st, and quoted statistics demonstrating the fallacy of the belief that dogs do not go mad in winter.

New York City Hospital Saturday and Sunday Fund.

The Hospital Saturday and Sunday Fund of New York city amounted this year to $68,000 (£13,600) which the distributing committee has divided among 37 hospitals in sums varying from $6800 (£1360) to $250 (£50).

April 15th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Milk Supervision in Victoria.

THE Board of Public Health in Victoria has for some time been considering, and has now drafted, a Bill for the supervision of the milk-supply. The chairman, Dr. D. A. Gresswell, has outlined the main provisions of the Bill which contains at least three or four requirements which have not hitherto been matters of legislation. Power is given to make regulations concerning a large variety of subjects, dealing with the milker, with the cow to be milked, and with a variety of details relating to the dairy farm. Dairymen themselves are to furnish the municipal councils at regular intervals with certificates from duly

qualified veterinary surgeons as to the condition of their cattle—an innovation which will reduce vastly the quantity of work required from the councils' veterinary experts. The Bill also gives power to councils and to the Board of Health absolutely to forbid the use of cows for milking purposes for human consumption whenever, in the opinion of a council or of the board, such cows are likely to yield unwholesome milk. The board or the council is the final arbiter in deciding whether or not the milk of a cow is wholesome. The Bill also gives the councils power to forbid the use of cows for furnishing milk for human consumption in cases where an outbreak of disease has been traced to their satisfaction to a particular cow or cows. A comprehensive clause prohibits the selling, under the name of "milk" or "entire milk" or other name indicative of unchanged milk, of any article of diet which is not absolutely the unchanged product of the udder of the cow. There is, however, a modifying clause allowing the addition of ingredients by order in council, on the recommendation of the Board of Health. If the board said that a certain chemical substance might be added as not being unwholesome, then there would be power, under the Act, to have it gazetted by an order in council, and such addition would then be legal.

Hospital Affairs.

The annual meeting of the Sydney Hospital was held on Feb. 3rd, the Governor of New South Wales presiding. The annual report stated that the past year had been one of marked activity and that the hospital was in a condition of efficiency it had never before attained. The financial position had been well maintained and the subscriptions showed a substantial increase. The following statistics were submitted: Patients remaining in hospital on Dec. 31st, 1901, 304; patients admitted during 1902, 4201; total under treatment, 4505; discharged cured, 2628; relieved, 933; unrelieved, 167; died, 453; remaining in hospital on Dec. 31st, 1902, 315; percentage of mortality on cases treated, 10; average number of admissions per week, 80; largest number admitted in one week, 103; smallest number admitted in one week, 63; average number of beds occupied, 298; largest number of beds occupied, 324; smallest number of patients, 255 (during repairs to the Moorcliff branch); average duration of stay in days, 27; number of accidents and urgent cases admitted without recommendations, 1670; number of patients admitted on Government orders, 1915; number of patients admitted on subscribers' orders, 87; number of patients admitted who contributed to their maintenance, 529. Of the 453 deaths 128 patients died within 24 hours of admission. The number of operations performed during the year was: At the main hospital, 2361; at the Moorcliff branch, 447: dental operations requiring anæsthetics, 146; total, 2954. The statistics of the out-patients' department are: medical department, 7641 new cases, 31,202 attendances; surgical department, 3914 new cases, 13,569 attendances: eye department, 1636 new cases, 7907 attendances; ear, nose, and throat department, 1516 new cases, 7433 attendances; skin department, 711 new cases, 4019 attendances; gynæcological department, 979 new cases, 5444 attendances; dental department, 314 new cases, 314 attendances. Anæsthetics 146, extractions 1486. Total: 16,711 new cases, 69,893 attendances. Casualty department, 10,176 new cases, 20,127 attendances. The balance sheet showed that compared with the previous year the expenditure had been increased by £1040, and compared with 1900 by £2656. Subscriptions, compared with 1900, had increased by £936, and exceeded those for 1901 by £852, exclusive of £150 received from the Children's Industrial Exhibition. The additional contributions were attributed to special coronation donations. It was estimated that the additional expense, owing to the drought, of purchasing meat would amount to nearly £2000. Despite the increased cost of living during the past year and the carrying out of many repairs, however, a reasonable surplus would be carried forward. The maintenance per bed for the year had been £67 against £63 7*s*. 7*d*. for 1901. For the current 12 months the cost is estimated at £71 2*s*.—Dr. C. V. Bowker has resigned the position of medical superintendent of the Sydney Hospital. Dr. Maitland has been appointed surgeon, and Dr. H. S. Stacey assistant surgeon.—The annual meeting of the Belmain Hospital was held on Jan. 28th. The report showed that a great deal of work had been satisfactorily done and that there was a credit balance of £467. Mr. C. U. Carruthers moved that it was advisable that a resident medical officer should be appointed. He said that the growth of the hospital had been rapid and that it was impossible for a medical man who had private practice outside the hospital to give fair and prompt attention. The committee paid a non-resident medical officer £150 a year. A resident officer could be obtained for £120 a year and board and lodging. Mr. T. M. Harding seconded the motion. Dr. L. G. Davidson, the late paid medical officer (who recently resigned), said they could not get a competent resident medical officer at £120 a year and he was willing to continue in his position till his successor could be appointed. The motion was lost by a large majority.—A conference was held in Melbourne on Feb. 4th of representatives of the various hospitals in Victoria to consider the advisability of securing an amendment of the Hospitals Act. The conference was the outcome of a discussion of the by-laws of the Women's Hospital with regard to the election of the medical staff by the subscribers. Certain suggested amendments could not be carried out without an alteration of the Hospitals Act. It was argued that at present it is inadvisable to do anything in the direction of inducing the Government to amend the Charities Act, and the following amendment was carried:—

That a sub committee be appointed to consider desirable and necessary alterations in the law relating to charitable institutions and also to suggest a model code of by-laws, and that when such be completed it be submitted to each of the institutions in the State, whose views thereon shall be considered at an adjourned meeting.

The committee of the Women's Hospital, Melbourne, is considering a proposal to provide accommodation for the reception of cases of puerperal septicæmia at an estimated cost of £400. Up to the present such cases have been rigorously excluded. The question was referred to the building committee as the estimate was considered too low.

March 10th.

Obituary.

FRANCESCO COLZI.

UNDER date, Florence, Palm Sunday, one of our Italian correspondents writes: Tuscany nay rather Italy—indeed, the healing art "ubique gentium"—are to-day lamenting the loss of one of the most brilliant and successful surgeons of his time. Francesco Colzi, after a heroic struggle of ten days' duration, succumbed on April 4th to the terrible gunshot wound received in circumstances already made known to the readers of THE LANCET.

For some 72 hours the skilful medication of the fractured arm and lacerated axilla seemed to justify the abstention from amputation—the course approved by the eminent consultant, Professor Bassini of Padua. Bulletins were issued night and morning to meet the solicitude of the sympathising public, from the King and Court of the Quirinal downwards, and the tenour of these, while not sanguine, could not be called discouraging. But by March 30th, when gangrenous points began to declare themselves, the thought of saving the arm had to give way to that of saving life itself, and after a long consultation, held before Professor Bassini could arrive from Padua, it was decided to perform the amputation which Professor Colzi had counselled from the first. At the professor's own request the operator was his old and favourite pupil and clinical assistant, Dr. Stori, who proceeded with great skill to remove the arm just above the level of the fracture. The operation, which was performed without anæsthesia, the patient maintaining an impassive yet vigilant calm, was an admirable specimen of the surgeon's art and the subsequent medication, in which Dr. Stori was assisted by his colleagues Professor Burci and Professor Del Greco, seemed to give fresh assurance that the precious life might be preserved. The prognosis was further reinforced by the indomitable pluck, not to say vivacity, of the patient himself who, contemplating his lost arm, said: "E dopo? Che farò per occupare il tempo? Anderò a studiare chimica nel gabinetto del Professore Piccini." ("And after? What shall I do to employ the time? I'll go and study chemistry in Professor Piccini's laboratory.") But *Dis aliter visum*.

Just before the operation some liquid that had oozed from the wound had been analysed and the bacilli of tetanus were detected, although the patient manifested no tetanic symptoms. The appropriate serum was at once obtained from Milan and with Professor Colzi's consent was injected in very high doses. But the characteristic spasms did not fail

to present themselves—even though the serum, still in the highest doses, was injected in the immediate neighbourhood of the wound. How had these bacilli been introduced? At the consultation it was left undetermined whether they had found their way in with the gunpowder, or the dust of the highway, or the shreds of clothing. Meanwhile the convulsive contractions, of the countenance first and then of other parts of the body, increased in intensity and frequency, the patient still maintaining perfect lucidity of mind and even discussing the phenomena as if he were lecturing in the pathological theatre. By this time the public anxiety, fed by the bulletins, had become as painful as it was universal, and among the innumerable callers at the hospital was His Royal Highness the Count of Turin, representing the solicitude of the Royal Family and Court. On April 3rd the tetanic convulsions involved the spina dorsalis and the lower extremities and at last the patient besought his colleagues to minimise his sufferings as far as they could. All hope of saving life was gone and after making sundry dispositions in presence of his immediate relatives (Professor Colzi was unmarried) he received the consolations of the Church from the Capuchin Padre Paolo attached *ad hoc* to the hospital. By 2 A.M. of April 4th he became delirious—the clinical staff assembled round his bed (Professor Grocco, Professor Banti, Professor Lustig, Professor Del Greco, Dr. Stori, Dr. Marchetti, Dr. Lenzi, and Dr. Berchielli) praying inwardly for the speedy advent of death as a relief to such agony. This did not come until 3 P.M., when a violent convulsive attack involved the heart and Francesco Colzi was no more.

The whole press, professional and lay, throughout Italy is unanimous in deploring his death in obituary notices more or less extended. From these I gather that he was born of a good family at Monsummano in Tuscany in 1855; that he was slow of development, having reached the age of nine years before he could read or write; that he made abnormally rapid progress at the University of Pisa and again at the Istituto di Studi Superiori at Florence; and that he graduated with great distinction in 1877 and thereafter made a tour of the principal cliniques of Europe as a post-graduate course. In 1879 he became assistant in surgery at the Hospital of the Santa Maria Nuova, and from 1883 to 1886 filled the post of assistant dissector in the Cabinet of Pathological Anatomy. In the latter year the illustrious Dr. Corradi, professor of surgery in the Florentine School, made him his assistant, a post which he held till 1892, after which he was elected extraordinary professor of clinical surgery in the University of Modena. Before the year was out he returned to Florence and finally succeeded Professor Corradi himself, first in 1897 as extraordinary and then in 1902 as ordinary professor of clinical surgery. Some notion of his activity and success in his chosen branch of the profession may be gathered from his "Contributo di Clinica Operativa," published 12 years ago, in which he tabulates and describes 843 operations performed by himself between 1886 and 1891. Of these 801 were successful; six were relieved or in course of cure when the volume was published; four were, on its publication, in the same condition or showing symptoms of relapse, necessitating supplementary interference; and of the 32 persons who died the majority succumbed to ailments other than those which had required his intervention. Extirpation of the larynx was one of his most brilliant successes, but the radical cure of hernia on the lines of Bassini's method brought him most into notice. There were 20 sufferers from this malady, in conditions more or less urgent, awaiting him on the day after the casualty that laid him low. For his contributions to the literature of this subject the reader may be referred to the professional journals of Italy; the leading Tuscan newspaper, the *Nazione* of Florence, fills half a column of its space in enumerating their titles alone.

WILLIAM BERRY KELLOCK, M.D. ST. AND., F.R.C.S. ENG., L.S.A.

BY the death of Dr. W. B. Kellock at the ripe age of 82 years the north of London has lost one of its oldest and most respected practitioners. Coming from a family which included many generations of medical men he was apprenticed to his father in his native town of Totnes, Devonshire, received his medical education at Guy's Hospital, became a Member of the Royal College of Surgeons of England in 1843, a Licentiate of the Society of Apothecaries, and doctor of medicine (St. Andrews) in the following year, and in 1878 was elected a Fellow of the Royal College of Surgeons of England. Dr. Kellock was for a time resident medical officer at the Stamford-hill and Stoke Newington Dispensary, in which institution he always took a lively interest and with which he was connected as surgeon and consulting surgeon throughout the remainder of his life. He was one of the oldest Fellows of the Medical Society of London and a Fellow of the Linnæan and Royal Horticultural Societies. Throughout an active practice extending over nearly 50 years his wide knowledge of his profession, his handsome, commanding presence, and his extreme kindliness of manner made him trusted and respected by several generations of patients; jealous to a degree of the integrity of his profession and its traditions he possessed an absolutely unbiased mind, always appreciative of real advances in modern medicine and surgery. Although advancing years made him relinquish active practice some 12 years ago his advice and help continued frequently to be sought by former patients and they are not a few who will grieve at the passing away of one of the wisest and kindest of friends and one of the most upright of men. Dr. Kellock left no family and his body was buried at Totnes with that of his wife who died in 1901.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the second examination of the Board at the April quarterly meeting of the examiners in Anatomy and Physiology:—

Leonard Ernest Acomb, Middlesex Hospital; Arthur Lionel Baly, B.A. Camb., Cambridge University and Middlesex Hospital; Frank Cyril Harvie Bennett, St. Mary's Hospital; Parvatiprasad Vishvanath Bhatt, St. Bartholomew's Hospital; William Thomas Briscoe, B.A. Camb., Cambridge University; Cuthbert Garrard Browne, Westminster Hospital; Frederick Henry Montagu Chapman, St. George's Hospital; William Winsland Douglas Chilcott, Charing Cross Hospital; Emil Christofferson, University College, Bristol; John Clarke, University College, Sheffield; George Cockcroft, Guy's Hospital; Herbert Alfred de Pinna, Toronto University and Middlesex Hospital; Gurth Eager, King's College, London; Kenneth Edward Eckenstein, University College, Liverpool; Thomas Llewellyn Evans, University College, Cardiff; Arthur Roland Fisher, Yorkshire College, Leeds, and King's College, London; Claude Francis Fothergill, B.A. Camb., Cambridge University and Guy's Hospital; Howard Graeme Gibson, Guy's Hospital; Robert Gray Gillies, Middlesex Hospital; Carleton Wyndham Gittens, University College, London; Morris Grundy, Cambridge University and King's College, London; Horace Gooch and Eric Henry Rhys Harries, London Hospital; Thomas Reginald Harvey, Guy's Hospital; Robert Francis Hebbert, St. Thomas's Hospital; Montague Leonard Hine, Middlesex Hospital; George Montague William Hodges, University College, London; Frederick William Hobbs and Walter Leopold Holyoak, St. Mary's Hospital; Cyril Bertram Hutchison, London Hospital; Thomas Jones Jenkins, University College, Cardiff; Valentine Goode Johnson, St. Mary's Hospital; Harold Emlyn Jones, London Hospital; Henry John Sulling Kimbell, St. Bartholomew's Hospital; Henry Andrew Lash, St. Mary's Hospital; Thomas Bramley Layton, Guy's Hospital; Robert Lecky, University College, Bristol; David Thomas Lewis, University College, Cardiff, and Middlesex Hospital; Herbert Bowen Maxwell, London Hospital; Patrick Francis McEvedy, John Harry Mayston, and Gerald Hamilton Morris, Guy's Hospital; Albert Clifford Morson, Middlesex Hospital; Hubert Cowell Mulkern, St. Mary's Hospital; Charles Max Page, St. Thomas's Hospital; Hubert Arnold Pallant, Guy's Hospital; Jeffery Wimperis Parker and Alan Randle, University College, London; Frederic Eustace Leigh Phillips and Arthur Haig Pollard, London Hospital; Edward Ebenezer Rendle, Guy's Hospital; Cecil Frank Rumsey, Charing Cross Hospital; William Octavius Sankey, St. Thomas's Hospital; Frederick Smith, University College, Sheffield; Leslie Ernest Maule Smith, Charing Cross Hospital; Reginald Thane Taylor, London Hospital; Edmund James Fairfield Thomas, University College, Bristol; Charles Henry Burton Thompson, Middlesex Hospital; George Gilbert Timpson and Horace Ernest Humphrey Tracey, Guy's Hospital; William Pentham Todd, London Hospital; Frederick Boileau Treves, B.A. Camb., Cambridge University; George Lister Walker, Yorkshire College, Leeds; Cuthbert Gerald Welch, University College, London; John Charles Wootton, St. Thomas's Hospital; and Arthur Zorab, Guy's Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—T. W. S. Hills (Section I.), Cambridge and St. Mary's Hospital; D. J. Lewis (Sections I. and II.), London Hospital; W. S. Lewis (Section I.), Birmingham; E. H. Noney, (Section II.), Calcutta and Westminster Hospital; J. A. Renshaw (Section I.), Manchester; and C. C. Rushton (Sections I. and II.), University College Hospital.

Medicine.—H. J. Aldous (Sections I. and II.), King's College Hospital; F. G. H. Cooke (Section II.), University College Hospital;

J. W. Elliott (Sections I. and II.), St. Mary's Hospital; A. F. Heald (Sections I. and II.), and T. W. S. Hills (Section I.), Cambridge and St. Mary's Hospital; H. Jacques (Section II.), London Hospital; L. H. Lewis, Middlesex Hospital; G. Lucas (Sections I. and II.), Cambridge and St. George's Hospital; M. L. Pethick (Sections I. and II.), Royal Free Hospital; J. A. Renshaw (Section I.), Manchester; R. C. Rumbelow, Middlesex Hospital; and H. G. Sewell (Sections I. and II.), London Hospital.

Forensic Medicine.—L. E. Ellis, St. George's Hospital; A. F. Heald, Cambridge and St. Mary's Hospital; H. Jacques, London Hospital; G. Lucas, Cambridge and St. George's Hospital; J. A. Renshaw, Manchester; and H. G. Sewell, London Hospital.

Midwifery.—A. T. Barnard, Royal Free Hospital; J. C. O. Bradbury, Cambridge and Guy's Hospital; T. Campbell, Liverpool; C. F. W. Dunn, Middlesex Hospital; T. W. S. Hills, Cambridge and St. Mary's Hospital; G. H. Rains, Westminster Hospital; J. A. Renshaw, Manchester; and J. P. B. Snell, Middlesex Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—J. C. O. Bradbury, J. W. Elliott, A. F. Heald, H. Jacques, G. Lucas, E. H. Noney, M. L. Pethick, R. C. Rumbelow, C. C. Rushton, and H. G. Sewell.

UNIVERSITY OF DURHAM.—At the examination for the degree of Bachelor in Medicine, held in April, the following candidates satisfied the examiners:—

FIRST EXAMINATION.

1. *Elementary Anatomy and Biology, Chemistry, and Physics.—Second-class Honours:* Charles Gordon Kemp, St. Bartholomew's Hospital; and Cuthbert Rex Wilkins, College of Medicine, Newcastle-upon-Tyne. *Pass list:* Harold Henry Blake and Gilbert Iliffe Cumberlege, College of Medicine, Newcastle-upon-Tyne; Sampson George Victor Harris, M.R.C.S., L.R.C.P., D.P.H., Charing Cross Hospital; and Frederic Jeune Willans, College of Medicine, Newcastle-upon-Tyne.
2. *Elementary Anatomy and Biology.*—Herbert Ridley Crisp, Ronald Martyn Davies, William Harold Edgar, and George Reginald Kilis, College of Medicine, Newcastle-upon-Tyne; John Everidge, King's College, London; Alfred Llewellyn Forster, Herbert Max Levinson, and Stanley Dunn Metcalfe, College of Medicine, Newcastle-upon-Tyne; Thomas Davidson Miller, M.R.C.S., L.R.C.P., St. Thomas's Hospital; and Edward Davidson Smith, Howard Bewley Stephenson, George Walker, and Frank Walter White, College of Medicine, Newcastle-upon-Tyne.
3. *Chemistry and Physics.*—Harold Ernst Bloxsome, St. Bartholomew's Hospital; Lewis Augustus Clutterbuck, L.R.C.P. & S. Ed., L.R.C.P.I., College of Medicine, Newcastle-upon-Tyne; Edward Percival Hearne Joynt and Herbert Fletcher Joynt, Guy's Hospital; Arthur Cecil Havs McCullagh, College of Medicine, Newcastle-upon-Tyne; Jessie Jean Martin Morton, Edinburgh Medical School; Bertha Mary Mules and Elizabeth Patterson, London School of Medicine for Women; William Rollin and Norman Spedding, College of Medicine, Newcastle-upon-Tyne; and Eric Frushard Waddington, Yorkshire College, Leeds.
4. *Elementary Anatomy.*—Sydney Havelock, B.Sc., College of Medicine, Newcastle-upon-Tyne.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—Second-class Honours: Wilfrid Fairclough and John Cuthbert Pearce, A.Sc., College of Medicine, Newcastle-upon-Tyne. *Pass List:* John Bowman Cooke and Hamilton Drummond, College of Medicine, Newcastle-upon-Tyne; Saville James Fielding, St. Thomas's Hospital; Archibald Finlay, London Hospital; William Purton Allen Hardwicke, L.S.A., Frederick Robert Henry Laverick, Samuel Leslie McBean, John Charles Norman, and Robert Rutherford, College of Medicine, Newcastle-upon-Tyne; Arthur John Turner, London Hospital; Robert Joseph Weidner, College of Medicine, Newcastle-upon-Tyne; and Herbert Hoyle Whaite, Birmingham University.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the April sittings of the Scottish Conjoint Medical Board held in Glasgow the following candidates passed the respective examinations:—

First Examination (five years' course).—Laura Gertrude Powell, Cardiff (with distinction); Walter Ernest Barrett, Leeds; Jeremiah Joseph O'Callaghan, Cork; Joseph Hume Patterson, Langside; George Lindsay Irwin, Belfast; John Arthur Smith, Glasgow; James Aitken Scott, Glasgow; and Thomas Forrest M. Leishman, Glasgow.

First Examination (four years' course).—James Ringland Lawther, County Down.

Second Examination (five years' course).—William Nicholas Alexander, Cork; Alfred Edwin M'Dougal, Paisley (with distinction); Alexander Brown, Glasgow; James Alfred Ashurst, Govan (with distinction); John Macnamara, Glasgow; Percival Henderson, Southport; George Henry Waugh, Belfast (with distinction); William Watkin Neilson Knox, Glasgow; Frederic James Breakell, Glasgow; and Edward Francis Nyhan, Cork.

Second Examination (four years' course).—John Stothart Farries, Leeds.

Third Examination.—Alexander Robb M. MacIlraith, Catheart; Maud Varley Everett, London; Archibald Frank Greene Spinks, Glasgow; John Watson, Glasgow; and John Hutchison Fyfe, L.D.S., Glasgow.

Final Examination (and admitted Licentiates of the three coöperating authorities).—Lizzie Denny, London; Reginald Norman Macdonald, Glasgow; William George Macdonald, Bridge of Weir; William Charles Massy Burnside, Belfast; Dinkar Dhondopant Sathage, Edinburgh; Bernard Mainwairing Dunstan, London; William John Baty, Newcastle-on-Tyne; Robert David Hirsch, Portobello; and Kennedy Joseph O'Brien, Galway.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

John Andrew Aitken (C.), James Montgomery Anderson (P.), John Anderson, M.A. (B., Z.), Thomas M'Call Anderson (Z.), Andrew Hamilton Arnott (C.), David Arthur (B., Z.*), John Atkinson (Z.), Edgar Barnes (Z.*), Herbert Bertram (Z.,* C.), John Henry Bisset (B., Z., P., C.), James Nimmo Brown, M.A. (Z., C.), Murdo Buchanan (P.), James Cairncross (B., P.*), James Cairns (Z.,* C.), Thomas Hay Campbell (Z., C.), Matthew Ignatius Thornton Cassidy (Z.,* C.), John Sawers Clark (B.), Alexander Beck Cluckie (P.), Alexander Johnston Cooper (B., P.), James Robert Craig (Z.), Charles Adolphus Crichlow (Z.,* C.), Alexander Dick (B.), John Alexander Doctor (Z., P.), Robert Donald (B.), James Richan Drever, M.A. (Z.), James Dunbar (P.), Donald Duncan (Z., C.), Allan Dunsmuir (B., P.), Leonard John Dunstone (Z., C.), William Marley Elliott (Z., C.), Archibald Fairley (Z.), Samuel Nichol Galbraith (Z., C.), Berkeley Gale (Z.), Alexander Thomas Arthur Geurlay (Z.), Henry Maxwell Granger (P.), John Vincent Grant (Z.), Percy Frederick Grant (P.), Thomas Purdie Grant (Z., C.), William Cooper Gunn (Z.), John Hammond (C.), Thomas Harkin (B., P.), John Mitchell Henderson (Z., C.), Andrew James Hutton (Z., C.), Percy James Kelly (P., C.), George Ligertwood (B., Z.), Daniel Conway M'Ardle (Z.), Ernest Bowman Macaulay (P.), Alexander M'Call (B., P.), Thomas M'Cririck, M.A. (B.,* Z.*), Alexander Tulloh Inglis Macdonald (Z.,* C.), James M'Donald (Z., P.), John Robert M'Gilvray (B., P.), Robert M'Inroy (B.), Joseph Bogue Mackay (Z.), William Anderson M'Kellar (C.), Thomas Cooper Mackenzie (C.), William Ferguson Mackenzie (B., P.), Allison David M'Lachlan (B., P.), Arthur Norman Roy M'Neill (Z., C.), David Manson (Z., C.), Isa Carswell Marshall (Z., C.), Robert Marshall (P.,* C.), James Hogg Martin (Z., C.), David Rogerson Mathieson (C.), Horatio Matthews (B.,* P.*), John Clark Middleton (Z.,* C.), John Wilson Miller (Z., P.), Robert Stewart Miller (B., C.), James Robertson Mitchell (B., P.), Hugh Walker Moir (P., C.), Hugh Morton (Z., P.), Robert Charles Muir (Z., C.), Arthur Alexander Murison (B.), Patrick O'Brien (Z., C.), John Oswald (C.), Isaac Papiermeister (Z., C.), Donald Renton (B., Z.), Murdoch Mann Rodger (C.), William James Rutherfurd (P.), Alexander Scott (Z., C.), Robert Ephraim Selby (Z.), Alfred Cecil Sharp (B., Z., P.,* C.), John Sharp (P.*), Alexander Hunter Sinclair (P.), John Steedman (Z.*), James Alexander Stenhouse (Z., P.), Campbell Kay Stevenson (Z., C.), William Stevenson (B.), Archibald Stewart (C.), John Torrance Weir Stewart (C.), Matthew John Stewart (Z.,* C.), John Anderson Struthers (Z.), John Martin Taylor (Z.,* C.), Hugh Johnstone Thomson (Z.,* C.), Robert Todd (C.), Martin Turnbull (B.), Hugh Watson (P., C.), William Barrie Watson (B., Z., P., C.), Thomas Charles Dalrymple Watt (B., P.), John Weir (Z., C.), James Kennedy Welsh (C.), Hugh White (B., P.), David John Williams (B.), Frank Ritchie Wilson (Z.,* C.), Hugh Mundle Wilson (Z.), William Mitchell Turner Wilson (B., P.), Garabed Yeghia Yardumian (Z., C.), and Matthew Young (Z.,* C.).

Women.—Annie M'Crorie (P., C.), Janet Annie Macvea (C.), and Jane Isabel Robertson (P., C.).

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., Anatomy; P., Physiology; and M., Materia Medica and Therapeutics):—

Scott Campbell Adam (M.), George Allison Allan (A., P.*), William Smith Allan (A., M.), Andrew Allison (A., P., M.), Andrew Woodroffe Anderson (A.), James Henderson Baird, B.A. (A., P.), Hugh Barr (A., P.), Andrew Baxter (A.), George Duncan Morrison Beaton (M.), Charles Burns (M.), Thomas Murdoch Campbell, M.A. (A.), Charles Game Angus Chislett (A.), Thomas Goodall Copestake (P.), Weir Burns Cunningham (M.), Robert Wilson Dale, M.A. (A.,* P., M.), Robert Scott Dewar, M.A. (A., P., M.), Allan Campbell Douglas (A., P.), Walter Duffy, M.A. (A., P., M.), John Shaw Dunn, M.A. (A.,* P.*), Eric John Dyke (A., P.), Hamilton William Dyke (A., P.), James Fairley (A., P., M.), Harry Prescot Fairlie (A., P., M.), Alexander Burns Ferguson (A., P., M.), Edward John Fitzgerald (M.), William Gilchrist (P., M.), Joseph Glaister (M.), Alexander Graham, B.Sc. (A., P.), William Grier (A., P.), Frank Hauxwell (A.), James Waugh Hay (A., M.), Robert M'Cowan Hill (P., M.), Ralph Vincent Howell (A., M.), David Guthrie Hunter, M.A. (A., P.), Arthur Innes (M.*), William Boyd Jack (A., P.*), James Rutherford Kerr (M.), George Notman Kirkwood (M.), William Love Kirkwood (A., P.), George Hugh Logan (P., M.), John Bertram M'Cabe (A.), Thomas M'Cosh (A., P.), Walter George Macdonald, M.A. (A., P.,* M.), Hugh Allan Macewen (A., P.), John Macintyre (P., M.), Roderick Macleod (A., P.), William Macleod (P.), John M'Millan (A., P., M.), Matthew Thompson Drummond M'Murrich (A.), Richard Cameron Macpherson (A.), Peter Maguire (A., P., M.), James Marshall (A.), William Blair Morton Martin (M.*), Robert May (P.), Henry Joseph Milligan (A., P., M.), David Robertson Mitchell (A., P., M.), William Struthers Moore (A., P., M.), Gavin Denholme Muir (A., M.), Frank Anderson Murray (M.), Patrick Joseph O'Hare (P., M.), Henry Sherwood Ranken (A., P.,* M.), Cunison Deane Rankin (A., P., M.), Thomas Thomson Rankin (A., P.), James Mill Renton (A., P., M.), Arthur Robertson (A., P., M.), William Rolland (A., P.), John Macdonald Ross (M.), Alexander Cappie Russell (A.,* P.), John Cooper Russell, M.A. (A., P.), John Sanson (A.), Edward Louis Augustin Sieger (A., P., M.), William Hermann Sieger (A.), Robert Wilfrid Simpson (A., P., M.), James Alexander Somerville (A.), Daniel Stewart (A., P.), Thomas Strain (A., P.), William Alexander Stuart (A., P.), John Taylor (A., P., M.), William Robb Taylor (M.), Thomas Thom (A.,* P.), William Lind Walker, M.A. (A., P.), George Wallace (M.), Alexander Macmillan Watson (P.), Archibald Crombie West (M.), James Wyper (A.), and George Young (A., P.).

Women.—Bethia Shanks Alexander (A.), Jeannie Thomson Clark (A., P.), Mary Theresa Gallagher (P.), Elizabeth Maud M'Vail (A., P., M.), Margaret Walker Millar (A.), Jessie Deane Rankin,

M.A. (A., P., M.), Mary Spence (A., P., M.), and Annie May Yates (A.).

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B) in the subjects indicated (P., Pathology; and M., Medical Jurisprudence and Public Health):—

Archibald Craig Amy (P., M.), Henry Graeme Anderson (P.), James Richard Sumner Anderson (M.), John William Arthur (M.), David Blackley (P., M.), Forrest Brechin (P., M.), Charles Brown (P., M.), George Yuille Caldwell (P., M.), Peter Carrick, M.A. (P., M.), Robert Buchanan Carslaw, M.A. (P.*), Robert Peploe Cartwright (P.), James Alexander Cowie, B.A., B.Sc. (P., M.), David William Davidson (M.), Thomas Thornton Macklin Dishington (P.), Hugh M'Millan Donaldson (M.), Charles Milligan Drew, M.A. (P., M.), Hugh Harvey Fulton (P.*), George Garry (P.), James Gemmell (M.), William Harold Gillatt (P., M.), William Macmillan Gilmour (P., M.), David Livingstone Graham (P., M.), John Graham (P., M.), George Munn Gray (P.*), Louis Leisler Greig (P., M.) John Cochrane Henderson (P., M.), Alexander Jamieson (P.), Robert Dallas Kennedy (P., M.), John Kerr (M.), William Henry Kirk (P., M.), Robert Thomson Leiper (P., M.), William Jamieson Logie (P., M.), Thomas Symington Macaulay (P., M.), John Duncan M'Callum, M.A. (P., M.); Donald Carmichael M'Cormick (P.), Neil M'Dougall (M.), James Boston M'Ewan (P., M.), Tom Duncan M'Ewan (P.), Duncan Macfadyen (P.), John M'Farlane (P.*), Robert Maxwell Macfarlane (P., M.), Robert Clark M'Guire (P., M.), James M'Houl (P., M.), Milne M'Intyre (P.), Ronald Mackinnon (P.), David James M'Leish, M.A., B.Sc. (P., M.), Norman Alexander Macleod (M.), Andrew Brown M'Pherson (P., M.), Andrew Meek (P., M.), Peter Millar (P., M.), John Muir (P., M.), Macdonald Munro (P., M.), George Clement-Nielson (P., M.), Thomas Orr (P.), Howard Henderson Patrick (P.), John Clegg Pickup (P., M.), Alexander MacMillan Pollock (M.), Andrew Maclean Pollock (P.), James Porter (P.), William Murdoch Rae (M.), Donald Ronald Reid (P.,* M.), Daniel Stevenson Richmond (M.), Berkeley Hope Robertson, M.A., B.Sc. (P., M.), Robert Thin Craig Robertson (P., M.), George Goldie Smith, B.Sc. (P.), John Stewart (P., M.), Norman Burgess Stewart (P., M.), William Craig Stewart (P., M.), Murray Ross Taylor (P., M.), William Templeton (P., M.), James White Thomson (P.), William Young Turner, M.A. (P., M.), Hugh Fleming Warwick (P.), Robert Watson (P.), Archibald Crombie West (P., M.), Archibald Simpson Wilson (P., M.), David Watson Wilson (P.), George Wilson (M.), Robert M'Nair Wilson (P., M.), and Watson Young (P.)

Women.—Annie Agnes Baird, M.A. (P., M.); Annie M'Caig Black (P., M.), Roberta Campbell (P.), Ethel Lily Chapman (P.), Jane Hamilton M'Ilroy M.A., B.Sc. (P., M.); Jane Stark M'Lauchlan (P., M.), Charlotte Reid Park (P.), Jane Reid Shaw (M.), Lily Smellie (P., M.), and Elizabeth Taylor Talbert (P., M.).

* Passed with distinction in the subjects indicated.

Mr. Ernest Milton Watkins has passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.) in the subjects of (*a*) Regional Anatomy and (*b*) Materia Medica and Pharmacy.

A COLLECTION OF DRUGS.—Mr. E. Merck, manufacturing and pharmacological chemist, has at the present moment on view at his office, 16, Jewry-street, London, E.C., a collection of drugs which has been prepared and put up in a form intended to meet the requirements of medical schools. The collection has been constructed to show the typical characteristics of each specimen, while the specimens are exhibited in such a way that they can be examined without much handling. It is, however, confined to the organic parts of the materia medica and comprises only the plants themselves and not any preparations thereof. Cinchona bark, for example, is exhibited, but there is no specimen of sulphate of quinine. The limitation of the scope of the collection prevents it from being thoroughly useful to medical students who require to obtain familiarity with the appearance not only of the organic parts of the materia medica but of the derivatives of those parts and also of the inorganic parts. The collection contains many specimens of plants which are not in the British Pharmacopœia and it is unnecessary for the student to know the appearance of these. The more the medical man in later life knows the better, but all teachers are agreed that the present curriculum of the medical student is sufficiently severe and that to teach him more than is likely to be demanded by the examiners is to run the risk of muddling him. The collection is not exhaustive as far as the organic substances are concerned. There are, for example, no specimens of ergot, camphor, colchicum, or cod-liver oil, not to attempt to exhaust the omissions which we noticed. In spite of this criticism we consider Mr. Merck's collection to be thoroughly worth attention for the idea is a good one and to make the collection complete should not be very difficult.

DIFFICULTIES UNDER THE INFECTIOUS DISEASES NOTIFICATION ACT.—At the meeting of the Cornwall county sanitary committee held at Truro on April 16th the clerk reported that correspondence had taken place between the committee, a medical officer of health, and a general practitioner in reference to the notification of certain alleged cases of diphtheria. A communication had been received from the Local Government Board on the subject which stated that, in the opinion of the Board, the certifier's statement of the nature of a notified case of infectious disease should be accepted unless there was reason to believe that he was not acting in good faith. The Board added that it did not consider it ordinarily the duty of a medical officer of health to examine personally patients who had been notified as suffering from infectious disease with a view to check the accuracy of certificates and where circumstances might render such an examination desirable it should be made after communication with the medical practitioner in attendance and if possible with his coöperation. With regard to the reliance to be placed on bacteriological examination of patients suspected to be suffering from diphtheria the Board remarks that it is advised that a single negative result cannot be regarded as decisive. One examination of a swab from the throat in a given case of diphtheria will not invariably yield evidence of the presence of the diphtheria bacillus in the material, and a careful clinical diagnosis cannot with safety be disregarded in cases which do not on a single test furnish sufficient evidence to warrant their being classed bacteriologically as diphtheria. The Board added that it regarded it as highly improper that an inspector of nuisances should, in any circumstances, collect throat swabs from suspected cases of diphtheria. Eventually the committee decided not to deal with the matter in view of the fact that it had been considered by the Local Government Board.

BOOKS, ETC., RECEIVED.

CHURCHILL, J. AND A., 7, Great Marlborough-street, W.

Ocular Therapeutics According to the Most Recent Discoveries. By Dr. A. Darier. Translated by Sydney Stephenson, M.B., C.M., Honorary Secretary of the Ophthalmological Society of the United Kingdom. Price 10*s.* 6*d.* net.

DORNAN, WILLIAM J., Philadelphia.

Essays on Clinical Medicine, being Reprints of Papers Published at Various Times in the *American Journal of the Medical Sciences*. By Beverley Robinson, A.M., M.D. Paris, Clinical Professor of Medicine at University and Bellevue Hospital Medical College. Price not stated.

FISCHER, GUSTAV, Jena.

Klinisches Jahrbuch. Zehnter Band. Drittes und viertes Heft. Dr. Springfeld, Die Typhusepidemien im Regierungsbezirk Arnsberg und ihre Beziehungen zu Stromverseuchungen und Wasserversorgungsanlagen. Price to subscribers M5.60; to non-subscribers M 7.50.

FRAMPTON, E. J., Bournemouth. (For the Association of Medical Men receiving Resident Patients.)

Where Shall I Send My Patient? A Guide for Medical Practitioners, and Book of Reference to the Health Resorts and Institutions for Patients of Great Britain. Price not stated.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

Diseases of the Skin. A Manual for Students and Practitioners. By Joseph Grindon, Ph.B., M.D., Professor of Clinical Dermatology and Syphilis, Washington University. Series edited by B. B. Gallaudet, M.D., of Columbia University, New York. Price 7*s.* 6*d.* net.

KING, P. S., AND SON, Orchard House, Westminster, S.W.

Report of the Proceedings of the Thirty-first Annual Poor Law Conference held in the Guildhall, London, on March 10th and 11th, 1903. President, Hon. Sydney Holland. Price 1*s.* net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

The Annual Charities Register and Digest. 1903. With an introduction by C. S. Loch, Secretary to the Council of the Charity Organisation Society, London. Price 2*s.* net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Portfolio of Dermochromes. By Professor Jacobi of Freiburg im Breisgau. English adaptation of text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. 4 Parts. Parts I. and II.

SMITH, ELDER, AND CO., 15, Waterloo-place, S.W.

Dictionary of National Biography. Index and Epitome. Edited by Sidney Lee. Price 23*s.* net.

STECHERT, G. E., New York and London.

The Manual Treatment of Diseases of Women. By Gustaf Norström, M.D., of the Faculty of Stockholm. Price 10*s.*

Chronic Headache and its Treatment by Massage. By Gustaf Norström, M.D., of the Faculty of Stockholm. Price 4*s.* 6*d.*

STUBER, A. (C. KABITZSCH), Würzburg.

Die Physikalisch-diätetische Therapie in der ärztlichen Praxis. Von Dr. med. Bernhard Presch, Arzt in Hannover. Lieferung VI. Price M.2.

UNIVERSITY PRESS, Royal University of Ireland, Dublin.

The Royal University of Ireland Examination Papers, 1902. A Supplement to the University Calendar for the Year 1903. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARMOUR, DONALD JOHN, B.A., M.B.Tor., M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the West London Hospital.

BRANDER, WILLIAM, M.B., Ch.B. Aberd., has been appointed Resident Medical Officer to the Ecclesall Bierlow Union Infirmary, Sheffield.

BROWN, JOSEPHINE, M.B. Lond., has been appointed Junior Assistant Medical Officer to the County Asylum, Bracebridge.

EVANS, D. R. POWELL, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond., has been appointed Clinical Assistant to the Samaritan Free Hospital for Women.

JARDINE, ROBERT, M.D. Edin., M.R.C.S. Eng., F.F.P. & S. Glasg., F.R.S. Edin., has been appointed Professor of Midwifery in St. Mungo's College, Glasgow.

JOHNSON, JAMES, L.R.C.S. & P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for Bispham and Norbreck, Poulton-le-Fylde.

KERR, HAROLD, M.B., Ch.B. Edin., has been appointed Junior House Surgeon to Rotherham Hospital and Dispensary.

KNAPTON, GEORGE, L.R.C.P. Edin., has been appointed a Physician to the Edinburgh Life Assurance Company for Manchester, Bowdon, and District.

MACKAY, JAMES, M.B. Aberd., has been appointed a Physician to the Edinburgh Life Assurance Company for Manchester and District.

MACLENNAN, ALEX., M.B., C.M. Glasg., L.M., has been appointed Visiting Surgeon to the Glasgow Training Home for Nurses.

ORMEROD, HENRY LAWRENCE, M.D., B.Ch., B.A.O. R.U.I., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Westbury District by the Barton Regis Board of Guardians.

TOBIN, J. J., M.D. R.U.I., has been appointed Medical Officer of Health to the Ilkeston Town Council.

TOOVEY, FRAZER T. E., F.R.C.S., L.R.C.P. Edin., has been appointed House Surgeon to the Royal Eye Hospital, Southwark, S.E.

WARDALE, J. D., M.B. Durh., has been appointed Lecturer on Ophthalmology in the University of Durham College of Medicine, Newcastle-on-Tyne.

WHIPHAM, T. R. C., M.B., B.Ch. Oxon., M.R.C.P. Lond., has been appointed Physician to Out-patients to the Evelina Hospital for Sick Children.

WHITE, J. B., M.D., M.S. R.U.I., has been appointed Medical Officer of Homerton Workhouse.

WILSON, WILLIAM CHEYNE, M.D., C.M. Edin., has been appointed Physician to the Plymouth Public Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARRA, PARISH OF.—Medical Officer and Public Vaccinator. Salary £119.

BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer. Salary £100 per annum, with apartments, rations, laundry, and attendance.

CANCER HOSPITAL, Fulham, S.W.—House Surgeon for six months, renewable. Salary £70 per annum, with board and residence.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer. Salary £140 per annum, with rations, apartments, and washing.

CARNARVONSHIRE AND ANGLESEY INFIRMARY, Bangor.—House Surgeon. Salary £80 per annum, with board, washing, and lodging.

CHARING CROSS HOSPITAL.—Assistant Physician.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with rooms, board, washing and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Pathologist and Registrar. Honorarium £100.

HERTFORD GENERAL INFIRMARY.—House Surgeon. Salary £100, with board, residence, and allowance

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—House Surgeon. Salary at the rate of £50 per annum, with board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HOSPITAL FOR WOMEN, Soho-square.—Clinical Assistantships.

JENNER INSTITUTE OF PREVENTIVE MEDICINE.—Director of the Institute. Salary £1000 per annum.

LEEDS UNION WORKHOUSE, SCHOOLS, AND INFIRMARY, Beckett-street, Leeds.—Assistant Medical Officer, unmarried. Salary £130 per annum, rising to £150, with board, washing, apartments, and attendance.

LEICESTER INFIRMARY.—Clinical Clerk. Honorarium £10 10s., with board, apartments, and washing.

LEICESTER SMALL-POX HOSPITAL.—Temporary Resident Medical Officer.

LIVERPOOL (CITY OF) INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

LIVERPOOL ROYAL INFIRMARY.—Vacancies on the Resident Staff for six months. Board, residence, and washing provided.

MARGARET-STREET HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 26 Margaret-street, Cavendish-square, W.—Physician.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Assistant House Surgeon Salary £50 per annum, with board, residence, and washing.

NORFOLK AND NORWICH HOSPITAL.—Second Assistant House Surgeon, for six months. Honorarium £20, with board, lodging, and washing.

NORTHAMPTON GENERAL INFIRMARY.—House Surgeon, unmarried. Salary £125 per annum, with apartments, board, attendance, and washing.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

ST. MARK'S HOSPITAL FOR FISTULA, &c., City-road, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ST. OLAVE'S UNION CHILDREN'S HOMES, Peckham rye, S.E.—Medical Officer. Salary £125 per annum.

SHEFFIELD ROYAL HOSPITAL.—Junior Assistant House Surgeon, unmarried. Salary £50 per annum, with board, washing, and lodging.

SOCIETY OF APOTHECARIES OF LONDON.—Examiner in Medicine.

STATE OF SARAWAK, MEDICAL DEPARTMENT.—Medical Officer, unmarried. Salary $300 a month and quarters.

SUSSEX COUNTY HOSPITAL.—Third House Surgeon, unmarried. Salary £60 per annum, with board and residence.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

WEST HERTS INFIRMARY, Hemel Hempstead.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, &c.

WEST RIDING ASYLUM, Wakefield.—Assistant Medical Officer. Salary £140, rising to £160, with apartments, board, washing, and attendance.

YORK COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £110 a year, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Pomeroy in the County of Tyrone, at Towcester in the County of Northampton, and at Shotts in the County of Lanark.

Births, Marriages, and Deaths.

BIRTHS.

CRAWFURD.—On April 11th, at Harley-street, W., the wife of Raymond H. P. Crawfurd, M.D., F.R.C.P. Lond., of a son.

FENWICK.—On April 17th, at Harley-street, the wife of W. Soltau Fenwick, M.D. Lond., of a son.

SQUARE.—On April 14th, at Portland-square, Plymouth, the wife of J. Elliott Square, F.R.C.S. Eng., of a daughter.

MARRIAGES.

BARHAM—LONG.—On April 14th, at Saint Nicholas Cole Abbey, Queen Victoria-street, E.C., Percy Cornelius Barham, M.R.C.S., L.R.C.P. Lond., to Elizabeth Sarah Maud, second daughter of Mr. J. W. Long.

BEALE—MORTIBOY.—On April 21st, at St. Leonard's, Streatham, by the Rev. W. B. Lindesay, LL.D., assisted by Rev. W. H. Tasker and Rev. J. C. Wilson, Hanway Richard Beale, M.B., M.R.C.S. Eng., of Leeds, to Blanche Mortiboy, eldest daughter of Mrs. Mortiboy-Allen.

CRAIG—BROCK.—On April 16th, at the parish church of St. Peter-Port, Guernsey, Maurice Craig, M.D. Cantab., to Edith de Saumarez, only child of Kentish Brock.

ECCLES—ABBOTT.—On April 16th, at St. John's Church, Eastbourne, Herbert Annesley Eccles, M.D. Lond., of Greystoke, Upper Norwood, to Margarita May, daughter of Mr. John Abbott.

FOWLER—DAVIDSON.—On April 16th, at St. Stephen's Church, South Dulwich, Simson Carstairs Fowler, M.B., C.M. Edin., to Lyndesay Brougham, daughter of the late Rev. Walter Davidson.

MUMMERY—HOPE.—On April 21st, at All Saints, Knightsbridge, by the Rev. Canon Teignmouth Shore, John Percy Lockhart Mummery, B.A., F.R.C.S., eldest son of T. Howard Mummery, to Ethel, third daughter of Adrian Hope, of 55, Prince's-gate.

SMITH—BOSTOCK.—On April 16th, at the parish church, Horsham, by the Rev. Charles Bostock, of North Waltham, assisted by the Rev. Canon Daniel, vicar of the parish, Edward Protheroe Smith, M.R.C.S., L.R.C.P., of Redditch, Worcestershire, eldest surviving son of Heywood Smith, M.D., of Welbeck-street, to Eva Mary, eldest daughter of E. Ingram Bostock, M.R.C.S., of Horsham.

DEATHS.

CHESSHIRE.—On Sunday, March 29th, at Santa Margherita, Italy, Edwin Chesshire, F.R.C.S., of Pinner, Middlesex, late Senior Surgeon, Birmingham and Midland Eye Hospital, aged 84.

SPOONER.—On April 17th, at Coupar House, Blandford, Dorset, Edward Monro Spooner, M.D., M.R.C.S., L.S.A., aged 62 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

TO MEDICAL FREEMASONS.

To the Editors of THE LANCET.

SIRS,—Will you allow me to thank most heartily all those who voted for the case of C. P. Hines at the recent election at the Royal Masonic Institution for Boys, by means of which his success was assured?

I am, Sirs, yours faithfully,

April 22nd, 1903. HEATON C. HOWARD.

To the Editors of THE LANCET.

SIRS,—I think it is only right after your kind insertion of my letter in THE LANCET of April 4th, p. 1004, to point out to your readers that at the election at the Royal Masonic Institution for Boys on April 17th both the medical candidates were successful, Samuel Basil Flood being second on the list with 5452 votes and Cyril Patrick Hines being tenth with 4720, and that at the election at the Royal Masonic Institution for Girls on the 18th M. I. Mackay was successful, being fourth on the list with 5611 votes. This result is extremely satisfactory and if, as I almost venture to think, my previous letter has played some part in securing votes for these candidates, I may perhaps be permitted to express my gratification. But although all these candidates were successful, the fact still remains that some system of organisation is needed by which medical votes, which are not required by their owners for candidates in whom they are personally interested, may be pooled and the success of medical candidates thus be ensured. I do venture to hope that this subject will not be lost sight of by the many medical and hospital lodges which, happily, now exist. The voting papers have been issued for the elections at the Royal Masonic Benevolent Institution, but a hasty glance down the list on my part failed to discover any medical candidates.

Thanking you again for the hospitality of your columns,

I am, Sirs, yours faithfully,

April 21st, 1903. LUKE.

THE MEDICAL PROFESSION AND FRIENDLY SOCIETIES.

To the Editors of THE LANCET.

SIRS,—Will you be good enough to express your opinion as to the relation of the medical profession to the National Deposit Friendly Society? Do you consider that the society would be included in the warning about clubs recently issued by the General Medical Council? As far as I can see medical men are required to attend and provide medicine for patients at less than half the usual rate charged to poor patients, and the only compensating advantage is that the payment is assured.

I am, Sirs, yours faithfully,

April 4th, 1903. WALTER COOPER, L.R.C.P. Lond., &c.

**** If our correspondent will forward to us the regulations of the society as to medical men in its employ we will endeavour to answer his question.—ED. L.

TUBERCULIN.

To the Editors of THE LANCET.

SIRS,—I am anxious to know where I may find the latest information as to the treatment of pulmonary tuberculosis by injections of tuberculin, and especially as to the results, disadvantages, and cost of such treatment.

I am, Sirs, yours faithfully,

April 20th, 1903. R. M.

**** The most recent and the most authoritative statements concerning the use of tuberculin in human tuberculosis are to be found in pp. 84-172 of vol. iii of the Transactions of the British Congress on Tuberculosis, published by William Clowes and Sons, Limited, 23, Cockspur-street, London, S.W. We understand that the cost of tuberculin is not less than 8*s.* per bottle and that the outlay necessary for the approved treatment of a case of tuberculosis of the lungs during, say, six months would amount to about £6 or £8.—ED. L.

THE NODON VALVE.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you would publish the address of the makers of the Nodon Valve described in THE LANCET of April 18th, p. 1108, so that I may get a price list.

I am, Sirs, yours faithfully,

April 18th, 1903. G. H. C.

**** The Nodon Valve can be obtained from Messrs. Isenthal, 85, Mortimer-street, London, W.—ED. L.

CHANCRE OF THE LIP.

AMONG a series of cases demonstrated at the Medical Graduates' College and recorded in the April number of the *Polyclinic* there was one of chancre of the lip. The patient, a youth, had on the right side of his lower lip a rounded sore of considerable size, hardly raised above the surface and having only a very moderate degree of induration at its base. The glands in the submaxillary triangle were much enlarged, forming a very conspicuous bubo. The method of infection could not be traced. Mr. Jonathan Hutchinson, jun., said that it was not at all uncommon for an incorrect diagnosis to be made in such cases, probably on account of the unusual situation and also because chancres of this region did not, as a rule, present typical induration. He mentioned that in the Museum of the Royal College of Surgeons of England there were several examples of extra-genital Hunterian chancres, the true nature of which had been for some time entirely overlooked. Chancre of the lip was obviously from its situation full of risk to those brought into association with the patient and precautions to prevent infection should be adopted. Mercurial treatment should be used and some simple dressing, such as mild mercurial ointment spread on lint, should be kept on the sore. The attention thereby drawn to the sore would assist in reducing the danger of the infection being communicated to other persons.

WANTED—AN ETIOLOGY.

To the Editors of THE LANCET.

SIRS,—I have seen several men who have had intolerable itching of the skin over the shins. They were all men of cleanly habits who bathed regularly and had no skin disease—specific or otherwise. This itching in every case started during cold weather and lasted usually all the winter. What is the cause of this itching? I find unguentum picis liquidæ gives relief if used night and morning. I have been surprised to find so many men troubled in this way.

I am, Sirs, yours faithfully,

April 20th, 1903. AINSWORTH.

POST-GRADUATE WORK IN PARIS.

Syria asks if anyone can direct him to available information regarding the medical teaching institutions in Paris. He desires to spend a few months in Paris this summer to improve his French and would like at the same time to see some surgery at the hospitals.

Pes.—The Diseases of Infancy and Childhood, by L. Emmett Holt, second edition, London, 1903 (Kimpton, 25*s.*). Lehrbuch der Kinderkrankheiten, by A. Baginsky, seventh edition, Leipsic, 1902 (S. Hirzel, 16·50 marks). These are the most recent works. Pediatrics, by Professor T. M. Rotch, 1896. Young J. Pentland, Edinburgh and London, and A Practical Treatise on Diseases of Children, second edition, 1889, by Dr. Eustace Smith, may also be consulted.

R. A. B.—British medical qualifications are not registrable either in Germany or Austria. Our correspondent could only practise as an unqualified practitioner unless he is prepared to attend the ordinary course of medical study in the countries mentioned.

Mr. J. Penny.—There is no reason to suppose that the medical man whose qualifications are set forth with such minuteness is responsible for the paragraphs in question or for the insertion of the photograph.

Curious.—A district medical officer by residing outside his district ceases *ipso facto* to be medical officer. It is obviously desirable that a district medical officer should be easily accessible.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (5.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (5.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (5.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (27th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M. Council. 8 P.M. Casual Communications: Mr. H. Baldwin: The Design of Small Plates.—Mr. C. H. Bubb and Mr. P. P. Cole: A Case of Macrostoma. Paper:—Mr. C. A. Clark: Electro-therapy.

MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Discussion on the Treatment of Rectal Cancer (introduced by Mr. H. F. Waterhouse).

TUESDAY (28th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. C. Wall: On Acute Cerebro-spinal Meningitis caused by the Diplococcus Intracellularis of Weichselbaum—a Clinical Study.

FRIDAY (1st).—WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Election of Auditors for the ensuing year. Address:—Dr. G. Herschell (President): The Diagnosis of Cancer of the Stomach in its Earliest Stage. Smoking Concert.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Paper:—Mr. Crouch: Three Cases of Vagus Inhibition from Chloroform.

RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Exhibition Evening.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY (Society's Rooms, West London Hospital).—8 P.M. Special General Meeting. 8.30 P.M. Mr. Lunn: An Obscure Case of Intestinal Obstruction due to an Obturator Hernia. Continuation of Discussion on Dr. Squire's paper on the Modes of Cure in Tuberculosis of the Lung.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases, Specimens, and Instruments will be shown by Dr. W. H. Kelson, Dr. H. Tilley, Mr. A. Thorne, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. MacLeod: Clinique. (Skin.) 5.15 P.M. Prof. A. E. Wright: On Blood Coagulability and its Relation to Œdema and Serous Effusions generally.

TUESDAY (28th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Clinique. (Medical.) 5.15 P.M. Dr. G. F. Still: Chorea.

WEDNESDAY (29th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. C. Ryall: Clinique. (Surgical.) 5.15 P.M. Dr. R. Jones: Mental Unsoundness amounting to Certifiable Insanity.

THURSDAY (30th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. W. H. Dickinson: The Tongue in Disease.

FRIDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Clarke: Clinique. (Eye.) 5.15 P.M. Dr. L. Samson: Insects of Medical Interest.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1902, which was completed with the issue of Dec. 27th, and the Title-page to the Volume, were given in THE LANCET of Jan. 3rd.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 23rd, 1903.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
April 17	30·32	N.E.	...	90	48	33	35	38	Fine
" 18	30·38	N.E.	...	95	50	31	34	38	Fine
" 19	30·27	W.	...	83	56	37	40	42	Hazy
" 20	29·94	S.	...	82	55	37	40	42	Hazy
" 21	29·56	ENE	...	67	49	42	43	46	Hazy
" 22	29·47	E.	...	93	51	36	39	43	Fine
" 23	29·48	N.E.	...	89	49	35	39	42	Fine

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